## Delaware

### Preemption – 1AC

#### Disclaimer clause preempts stronger state laws.

Donald A. Frederick 93, Program Leader, Legal, Policy & Taxation, Agricultural Cooperative Service, United States Department of Agriculture, Washington, D.C., "Legal Rights of Producers to Collectively Negotiate," William Mitchell Law Review, vol. 19, Spring 1993, pp. 433-443, Lexis

The disclaimer clause of AFPA provides that "nothing in this chapter shall … require a handler to deal with an association of producers." 148 The provision may call into question state statutes requiring a processor to negotiate in good faith with a producer association. The disclaimer clause also raises [\*451] concerns over how far a state can go in compelling a processor to accept third-party intervention in the negotiation process. 149

From the producer's perspective, other weaknesses exist in legislation, particularly at the federal level. Under the disclaimer clause of the AFPA, processors can terminate producer contracts for virtually any reason other than the producer's participation in a cooperative. 150 Because of this narrow coverage, processors could easily formulate a legitimate reason justifying termination regardless of whether cooperative participation was the real motivation behind the termination of the contract.

Federal law is devoid of procedures to facilitate negotiations between a processor and a grower association. Often, if the parties are able to sit down and talk with a neutral, trained outside person, differences can be resolved and amicable agreements can be reached. While several states have undertaken to provide professional assistance in the negotiation process, 151 the federal government has not found it appropriate to offer this service on a nationwide scale.

Penalties under federal law for violating producer rights are modest, at best. Private parties can collect damages and attorney's fees. 152 The cost of private litigation, however, forces most grower associations to rely on the government to pursue their cause.

Even when the government files suit on behalf of a grower association, the only remedy available is a civil complaint re [\*452] questing preventive relief to bar further illegal conduct. 153 As a result, the Justice Department is reluctant to expend the resources necessary to pursue these cases. Even if the case is successful, the processor is no worse off than if it had not violated the law initially. Current enforcement tools provide little inducement for voluntary compliance on the part of processors.

Federal law does little to facilitate purposeful bargaining. State law that exceeds the scope of the AFPA is exposed to possible federal preemption charges. The lack of uncompromised public policy support puts producer associations in a "chicken-or-the-egg" situation. Producers are reluctant to join an association until the association has shown the ability to withstand processor pressure. Yet, an association cannot obtain significant bargaining power until its membership represents a large enough share of production that the processor has to respect the association.

Some producer groups have developed sufficient market presence to command processor attention. 154 Many other producers, however, remain unorganized or unable to become a force in their industry. A more favorable public policy toward agricultural bargaining would facilitate stronger, more effective farmer associations.

B. Steps to Improve Producer Bargaining Power

Repealing the disclaimer clause would eliminate the AFPA language that states that handlers and producers are not required to deal with producer associations. 155 This repeal would remove the cloud over state laws that promote good faith negotiation and third party assistance in reaching a settlement. In addition, repealing the disclaimer clause would remove any inference that processors can refuse to do business with an association member for reasons other than membership in the association. 156

Producers could also benefit from an amendment designating failure to bargain in good faith as a prohibited practice under section four of the AFPA. To avoid self-contradiction, an amendment requiring good faith bargaining should be accompanied by a repeal of at least that portion of the disclaimer clause which states that handlers do not have to deal with producer associations. 157 These amendments would insure that some discussion or negotiation would occur. Once the parties are talking there is reason to hope for a negotiated contract. In addition, producers who fail to engage in honest negotiation could be subject to legal action or sanctions.

### Preemption – 2AC

#### LOBBYING---causes preemption AND blocks follow-on.

John Ikerd 20, BS, MS and PhD in Agricultural Economics from the University of Missouri, former Head of Extension Agricultural Economics at the University of Georgia, Professor Emeritus from the University of Missouri, "Reclaiming the Future of Farming," Prepared for presentation at the MOSES Organic Farming Conference, February 2020, http://web.missouri.edu/~ikerdj/papers/WIMOSESFutureFoodFarming.pdf

What happened to stop, or at least delay, the great agricultural transformation that seemed so promising at the turn of the century? I think the futurists, myself included, failed to appreciate the growing economic and political power of the multinational agribusiness corporations and their determination to dominate the agricultural economy. When the federal government essentially quit enforcing corporate antitrust policy in the 1980s, it essentially freed the large corporations to take control of government. Economic colonization3 is a term that seems appropriate to describe the corporate domination of rural areas around the world, including rural America. The term is typically used in reference to the so-called developed nations using their economic power to continue dominating less-developed nations that were previously colonized politically. Instead of colonization by national governments, the colonization today is being carried out by large, multinational corporations. Much like colonial empires of the past, the economically valuable ecological and societal resources of rural areas, including rural people and cultures, are being exploited not to benefit rural people but instead to increase the wealth of corporate investors. These large, publicly traded corporations are purely economic entities with no capacity for concern or commitment to the future of rural communities. Their only interest is in extracting economic wealth from rural areas.

Whether intentional or coincidental, industrial agriculture has been the primary means of colonizing rural America. Agribusiness corporations gain political legitimacy and elicit economic concessions from local government officials through false promises of rural economic development. The largely unregulated industrial agriculture erodes the fertility of the soil and poisons the air and water with chemical and biological wastes. Comprehensive corporate contracts replace thinking, caring farmers with tractor drivers and corporate hired-hands. Once the productivity of an area has been depleted, the corporations will simply move their operations to other areas of the nation or world where land is still productive and labor costs are cheaper— as we have seen in with pineapple and sugar cane production moving out of Hawaii. Rural communities are left with depleted soils and aquifers, streams and groundwater polluted with agricultural chemical and biological wastes, and farmers who no longer know how to farm.

Obviously, farming communities did not become places where the knowledge workers of the 21st Century have chosen to work and live. Wendell Berry—farmer, philosopher, and author—in a 2017 letter to the New York Times described it this way: “The business of America has been largely and without apology the plundering of rural America, from which everything of value—minerals, timber, farm animals, farm crops, and “labor”—has been taken at the lowest possible price. As apparently none of the enlightened ones has seen in flying over or bypassing on the interstate highways, its too-large fields are toxic and eroding, its streams and rivers poisoned, its forests mangled, its towns dying or dead along with their locally owned small businesses, its children leaving after high school and not coming back. Too many of the children are not working at anything, too many are transfixed by the various screens, too many are on drugs, too many are dying.”4

The promise of a social and economic renaissance became social and economic desecration. A 2017 Wall Street Journal article labeled rural America as the “New Inner City.” In terms of poverty, education, teenage births, divorce, premature death, disability, and unemployment, rural counties now rank below inner cities.” 5 Drug abuse and crime, once urban problems, now plague rural communities. The rural communities that thrived socially and economically during the 1940s and 1950s, when I was a member of Future Farmers of America, are but a distant memory.

What did we gain from all of this economic desecration of rural America? Very little! Admittedly, American consumers on average spent less of their disposable income on food in the late 1990s than in the 1970s. Over the past 20 years, however, food prices have risen faster than the overall rate of inflation.6 Furthermore, industrial agriculture didn’t feed the hungry. In fact, more people are now classified as “food insecure” than back in the 1960s.7 In 2018, one-in-nine Americans were classified as food insecure and one-in-seven American children lived in foodinsecure homes.8 Whatever has been gained by lower food costs has been more than offset by rising costs of health care. An epidemic of diet related illnesses; obesity, diabetes, hypertension, heart disease, and cancers, now threatens the physical and financial future of the nation. Costs of health care are projected to account for one-fifth of the GDP by 2016.9

Why did we Americans let this happen? Or was it inevitable? The industrialization of American agriculture was made possible by post-World War II agrochemical and mechanical technologies, however, it was “made inevitable” by supportive government policies. The specialized, mechanized, large-scale nature of industrial farming that makes it economically efficient also makes it inherently economically risky. Farmers are forced to make large investments in land, buildings, and equipment in operations that are inherently vulnerable to unpredictable weather that can devastate crops, diseases that can wipe out livestock and poultry operations, and to unprofitable prices in markets characterized by periodic overproduction. So, American taxpayers were asked to absorb much of these risks through U.S. farm policies— including various kinds of price supports, deficiency payments, subsidized crop insurance, disaster payments, subsidized interest rates, loan guarantees, and investment tax credits. All of these programs, in one way or another, incentivize or subsidize industrial agriculture.

The industrialization of agriculture was a bold experiment, and it was well-intended—at least by many of its earlier advocates. I was one of those advocates during the first half of my 30 year academic career. I thought by improving the economic efficiency of farming, we would bring down the cost of food and make good food affordable for everybody. I thought the focus on economic efficiency would create profit opportunity for progressive farmers and support economically viable rural communities. However, during the farm financial crisis of the 1980s, I was forced to face the hard, cold reality that it had done none of these things. The industrialization of agriculture was well intended, but it simply didn’t work.

Regardless, many farmers continue to support it because they feel trapped by large investments in land, buildings, and equipment. They are trapped by government policies that encourage and enable them to keep doing what they are doing. They are also trapped by a “commercial farming culture” that has been skillfully crafted and protected by corporate agribusiness. So, what will it take to reclaim the future of farming? One of my professors at the University of Missouri, and later a mentor, was Harold Breimyer—a distinguished agricultural economist. Harold frequently reminded his students and others that “Americans can have any kind of agriculture we want.” He said we simply need to implement the right farm policies to get it. He was right. If we are to fundamentally change American agriculture, we must fundamentally change U.S. farm policy.

So what will it take to bring about another transformation in American farm policy? I personally believe it will take nothing less than a major consumer/taxpayer revolt. The corporate agri-food establishment has used its economic power to gain political power and now has firm control of the farm and food policy making in Washington DC and in statehouses across the country. No substantive change in farm policy can survive the political process without the endorsement or acquiescence of the corporate agricultural establishment.

## Case

### Ind/Pak War – 1AC

#### South Asia radicalization goes nuclear---new doctrine means the next attack is key.

ICG 25, International Crisis Group, independent organisation working to prevent wars and shape policies for peace, provides independent analysis and advice on preventing and managing deadly conflict, combines expert field research with policymaker engagement, founded 1995 in response to Somalia Rwanda and Bosnia conflicts; Comfort Ero, President & CEO; Richard Atwood, Executive Vice President; Elissa Jobson, Chief of Advocacy; Praveen Madhiraju, General Counsel; Brett Moody, Chief Financial Officer; Stephen Pomper, Chief of Policy; Krista van Weelden, Chief of People and Culture; Robert Blecher, Program Director Future of Conflict, "India-Pakistan: Avoiding a War in Waiting," Briefing 185 / Asia-Pacific, 09/17/2025, https://www.crisisgroup.org/asia-pacific/india-pakistan/b185-india-pakistan-avoiding-war-waiting

Tripwires, Threats and a Fragile Peace

After four days of conflict marked by a welter of misinformation, both India and Pakistan declared victory.34 The Indian government said it had honoured pledges to hit the perpetrators of the Pahalgam attack deep into Pakistani territory. The Pakistan government lavished praise on its army and air force for delivering lethal blows against a much larger military adversary. As for the 10 May ceasefire, it continues to hold and the high-level military hotline between the two states has stayed active, reducing the risk of resurgent conflict caused by miscalculations and misunderstandings involving their armed forces. Remaining in periodic contact since 12 May, the DGMOs have agreed to a phased reduction of forward troop deployments along the international border, redeploying personnel to their pre-7 May positions and helping to stabilise the frontier zone. Both militaries also support the creation of a more permanent mechanism for de-escalation.

Although the border is now quiet, the ceasefire has only frozen the conflict, while the hotline between the DGMOs could be disrupted should tensions escalate once again. Both militaries remain on high alert, while neither nationalist rhetoric nor potential triggers of fighting have subsided. The fear subsists that by mistake or intention either side could feel compelled to turn to its nuclear arsenal. An Indian security expert warned that New Delhi’s pre-emptive strikes have arguably destabilised and embittered relations between the two more than strengthened India’s deterrence.35 “Both sides have now declared victory in a conflict that resolved nothing”, one Pakistani security analyst concurred.36

A. Proxy Armed Violence

India and Pakistan have long been at loggerheads over the other’s alleged support for militant and separatist groups operating on their respective territories. The Indian government believes that active Kashmiri militants are entirely a creation of Pakistan, and that the Pahalgam attack was an attempt to undermine the peace and stability it claims to have brought to Jammu and Kashmir.37 Since India attributes all militancy in Kashmir to Pakistan-based jihadist groups supported by Islamabad rather than disaffected locals acting out of their own volition, any major attack of the sort witnessed in Pahalgam threatens to prompt a wave of retaliatory strikes (see more on this in Section III.B).

Establishing the truth of New Delhi’s accusations is no easy matter. While there is no doubt that Pakistan actively supported the insurgency in Indian-administered Kashmir in the late 1980s and 1990s, it is difficult to determine the precise extent of its current support for local militants, despite the ardent claims of the Indian authorities. New Delhi’s August 2019 suspension of Kashmir’s semi-autonomous status, alongside its heavy-handed response to Kashmiri dissent, fuelled public disaffection in the region and gave a fillip to militancy.38 This has led to the emergence of new militant outfits, such as The Resistance Front, which pledge to oppose the reforms New Delhi has sought to impose and which Kashmiris perceive as yet another bid to reinforce central Indian control over the region.39

The strengthening of India’s security apparatus in the region has made it difficult for militants to operate with the same intensity as before.

Hardly a week has gone by in recent years without an encounter between Indian security forces and militants, many of whom have been identified as local Kashmiris rather than solely Pakistani infiltrators.40 As a result, a deadly terror attack has remained a constant threat. “All it takes is two mad men with guns”, one Kashmir-based security official said.41 At the same time, the strengthening of India’s security apparatus in the region has made it difficult for militants to operate with the same intensity as before. Most militants killed since 2019 have been inadequately trained and equipped, and have died within days of joining the armed struggle.42

Pakistan for its part has repeatedly argued that the Laskhar-e-Tayyaba, which it officially banned in 2002, is unable to plan and conduct attacks from inside its border. “Those people, whatever is left of them, they are contained”, Defence Minister Asif insisted days after the Pahalgam attack. Some are under house arrest, while others are in custody”.43 After being banned, the LeT re-emerged as the Jamaat-ud-Dawa, operating as its charity front, which was also banned in 2008 following the terror attack in Mumbai.44 In 2019, LeT leader Hafiz Mohammad Saeed was arrested and convicted on terror financing charges; he is currently serving a 31-year jail sentence. Pakistan also banned the JeM in January 2008 and subsequently its so-called charity arm, the Falah-i-Insaniyat Foundation, in May 2019. The following year, the government froze the properties and assets of both banned groups.45 But U.S and Indian officials believe that the two outfits continue to maintain networks and operate freely within Pakistan.46

On 17 July, the U.S. State Department designated The Resistance Front, the group that had initially claimed responsibility for the Pahalgam attack, a foreign terrorist group, branding it a “front and proxy” of the (already designated) LeT.47 Pakistan’s foreign ministry responded that “any linkage with LeT (…) belies ground realities”, adding that Pakistan “has effectively and comprehensively dismantled” LeT and arrested and prosecuted its leadership.48

Indian officials nevertheless insist that Pakistani denials of any state support for – or even the presence in the country of – anti-Indian jihadist outfits must be backed up by far stronger enforcement action.

Meanwhile, Islamabad holds India responsible for supporting groups that have long targeted security forces and civilians within its territory.49 New Delhi, Pakistani leaders say, instigates terrorism within Pakistan through hardline Baloch separatist outfits such as the Balochistan Liberation Army (BLA) and the Islamist jihadist Tehreek-e-Taliban Pakistan (TTP, also known as the Pakistani Taliban), both of which have inflicted heavy casualties on Pakistani security forces.50 Between January and June 2025, the two groups orchestrated a total of 502 attacks that claimed the lives of 284 security personnel and 267 civilians.51

New Delhi has rejected Pakistan’s claims that it backs anti-Pakistani militants, decrying these accusations as an attempt to divert international attention from Islamabad’s continued support for anti-Indian jihadist groups.52 Even so, both the Baloch separatists and the Pakistani Taliban publicly backed India during the May hostilities.53 The Pakistan military has since claimed that India has unleashed its proxies “to foment terrorism” in the country in the wake of the May attacks.54 On 12 August, after the U.S. State Department added the BLA and its military wing, the Majeed Brigade, to its Foreign Terrorist Organisation list, Pakistan’s interior minister posted on X that “This is a major diplomatic victory for Pakistan and another defeat for our eternal enemy”.55

B. New Military Doctrines

The conflict in May has reshaped the already fraught relations between the two countries in ways that make the current truce hard to sustain. Two days after the ceasefire came into force, Prime Minister Modi said in an address to the nation that India had merely suspended Operation Sindoor, not ended it, and that its future course would depend on Pakistan’s behaviour. “Operation Sindoor has carved out a new benchmark in our fight against terrorism and has set up a new parameter and new normal”, he explained.56 These comments, which he has repeated since then, alongside those of other senior Indian officials, suggest that from now on the government will be inclined to treat any terrorist attack on its territory as an act of war from Pakistan, and consider retaliatory action, including deep into Pakistani territory, as entirely legitimate.57

By erasing the distinction between militants and alleged state patrons in Pakistan, India’s new military doctrine heightens the risk of another conflict. Given that Pakistan will inevitably respond to any Indian attack, it makes the onset of a retaliatory tit-for-tat far more likely.58 Indeed, Pakistan has also appeared to shift its military doctrine, with Foreign Minister Ishaq Dar emphasising that the armed forces’ “quid pro quo plus” response to India’s attacks in May was now the “new normal”.59 The military high command warned India that “any attempt to challenge Pakistan’s sovereignty or territorial integrity, ever again, shall be met with a swift, full-spectrum, and decisive response”.60

Pakistani authorities have also noted that New Delhi’s stance means militants, regardless of their country of origin or ideology, may seek to exploit an opportunity to spark armed conflict between the two states. Bilawal-Bhutto Zardari, Pakistan’s former foreign minister, whose Pakistan Peoples Party (PPP) is a major coalition partner in the Sharif government, has warned against leaving the fate of “our two great nations” in “the hands of these nameless, faceless, non-state actors”.61

Domestic Audiences

Domestic pressures could also play a role in triggering conflict between India and Pakistan. In the wake of the May attacks, the Indian government, having first raised expectations of victory against Pakistan before agreeing to a ceasefire, sought to assuage disappointed supporters at home. Modi’s statement about India merely pausing its military operations against Pakistan could be read in this light.62 Likewise, the Indian military has since made unproven claims regarding its feats during the clashes. Delivering a lecture in Bengaluru on 9 August, the air force chief claimed that Indian planes shot down six Pakistani jet fighters and one other military aircraft – the exact number of Indian planes that Pakistan claimed to have downed in May.63 Fanned by a jingoistic media, the Indian public has been led to expect immediate and successful retaliation as a normal rather than exceptional response to a terror attack. The BJP government’s Hindu nationalist supporters could well demand even more potent military strikes on Pakistan the next time conflict erupts.64

In Pakistan, the Indian attacks brought about the kind of national unity that has long eluded the politically divided country, with the public rallying behind its armed forces.65 Even former Prime Minister Imran Khan’s Pakistan Tehreek-e-Insaf party, which has been immersed in a protracted power struggle with the Sharif government and the military high command, praised the armed forces, lauding their performance against a much larger foe.66

Army chief Asim Munir was a major beneficiary of this tide of pro-military sentiment. In late May, the government promoted him to the rank of field marshal in recognition of his “strategic leadership and decisive role” in the May conflict – the first time that an elected government has granted this title to an army chief.67 Since the military’s domestic legitimacy and its broad political sway will continue to rest on its ability to defend the country’s sovereignty, a robust response to any future Indian strikes is all the more likely.

D. Disputes over Water Sharing

Disputes over water sharing, if left unresolved, also risk fuelling tensions that could potentially spark armed conflict between the two neighbours. After New Delhi placed the Indus Waters Treaty “in abeyance” in the wake of the Pahalgam attack, India’s home minister asserted the agreement would never be restored.68 Calling on India to respect its international obligations under the treaty, Islamabad has warned that it would have no choice but to act, including militarily, should New Delhi store or divert waters of the three western rivers allocated to Pakistan under the treaty. These rivers constitute a lifeline for millions of Pakistanis, accounting for close to 80 per cent of the country’s overall water use, and up to 90 per cent of the water used for irrigation.69

Despite the many frictions in the bilateral relationship since the treaty came into force 65 years ago, it survived unscathed. But India has shelved a treaty that contains no provision for unilateral suspension.70 Pakistan, which is at a disadvantage given its downstream location, has expressed its readiness to discuss modifications to the treaty so as to adapt to India’s evolving needs since it was signed in 1960, including population growth and clean energy. But it has insisted this can only be done through the treaty’s dispute resolution mechanisms.71 On 27 June, the Permanent Court of Arbitration in The Hague ruled that India’s decision did not affect its competence to continue hearing Pakistani objections to two Indian hydro-electric projects.72 A press release by the court noted that “the terms of the Treaty’s object and purpose, do not allow either party, acting unilaterally, to hold in abeyance or suspend an ongoing dispute settlement process.73 On 8 August, interpreting the Indus Waters Treaty, the court’s award said “India shall ‘let flow’ the waters of the western rivers for Pakistan’s unrestricted use”.74

India considers the Indus Waters Treaty to be outdated and unfair, and believes it is high time to revise it. It argues that there has been a fundamental change in circumstances since the treaty was enacted and suspended the treaty in reprisal for the Pahalgam attack, declaring that Pakistan had committed a material breach of the treaty by backing anti-India militants.75 For now, India does not have the infrastructure needed to store or divert the water crossing into Pakistan. But it has plans to drastically reduce the share of water granted to Pakistan under the Indus Waters Treaty by building new dams and other retention structures. After suspending the treaty, Prime Minister Modi reportedly told officials to expedite the planning and execution of such projects.76

Pressing ahead with these plans could spur a hostile military response from Islamabad. 77 Pakistan’s army chief warned on 11 August that “we have no shortage of resources to undo the Indian designs” regarding the Indus waters. “We will wait for India to build a dam, and when they do, we will destroy it”.78

E. The Nuclear Dimension

The May conflict has provided a stark illustration of how the risks of escalation between the two nuclear armed neighbours are higher than in the past. While the four-day confrontation remained far below the nuclear threshold, it was arguably closer to it than ever before. For this reason, India’s new doctrine of systematic retaliation against Pakistan in the event of a terrorist attack raises new dangers. The next time conflict erupts, domestic pressures could prompt India to strike even harder, and trigger an equally forceful Pakistani response. As both sides up the military ante, the demands to hit back and temptations to deploy ever greater force could unfold in ways that both states find difficult to control.79

In his 12 May speech, Prime Minister Modi specifically warned that India “will not tolerate any nuclear blackmail” – in other words, that Pakistan’s nuclear weapons capability will not deter India from attacking it in response to a terrorist attack.80 But the assumption that limited conventional strikes against Pakistan will trigger retaliation that will always remain below the nuclear threshold, and that any ensuing conflict will quickly subside, are hazardous ones.

First officially laid out in 2003, India has a “no first use” nuclear doctrine. Pakistan’s nuclear doctrine, which remains opaque, does not endorse a no-first use policy.81 But neither doctrine necessarily guarantees stable nuclear deterrence in the region. India rules out striking first but its doctrine, branded “credible minimum deterrence”, is based on massive retaliation. In the event of a first nuclear strike, return strikes would aim to “inflict unacceptable damage”.82 The basic tenet of Pakistan’s nuclear policy is also credible minimum deterrence, aimed at warding off Indian nuclear threats or a major conventional attack. But since it is a smaller country and faces a stronger adversary, Pakistan’s nuclear planners say it could deploy nuclear weapons if armed hostilities threaten a major loss of territory or the destruction of its military.83

Pakistan insists that its conventional capabilities are sufficient to counter any Indian attack, as they did during the clashes in May, meaning it has no need to resort to its nuclear arsenal.84 Furthermore, both sides appear to believe that nuclear deterrence will successfully prevent a slide into all-out war. During the May conflict, a senior Pakistani ex-diplomat noted: “India’s reckless actions escalated the crisis to a dangerous level and drove it into unchartered territory – almost to the edge of all-out war. But its military brinkmanship had to stop well short of Pakistan’s known nuclear red lines. Thus, were it not for the nuclear factor, a full-scale war could have broken out”.85 A former top Indian security official concurred that nuclear weapons capability means that both sides were conscious of the need for “managed hostility” that remained below the nuclear threshold.86

Even so, the shared understanding that neither side is willing to endorse a potential nuclear escalation may not be as strong as it seems. In the absence of robust communication mechanisms or effective guardrails to defuse tensions, many observers believe the risk of a slide into all-out war, with nuclear deployment a possible recourse, cannot be ruled out. As an Indian analyst put it, the next crisis could “erupt faster, escalate more intensely, and risk nuclear exchange sooner”.87 Pakistan’s chairman of the Joint Chiefs of Staff appeared to concur. Speaking in late May at the Shangri-La Dialogue forum, Asia’s largest defence conference, he said: “This (conflict) lowers the threshold between two countries who are contiguous nuclear powers”, which implies “greater risk on both sides, not just in the disputed territory (Jammu and Kashmir) but for all of India and all of Pakistan”.88

While both sides insist that deterrence between the two is stable and there is no intention to deploy nuclear weapons, the risks of inadvertent use in a fast-moving, volatile conflict are high.89 For instance, each other’s nuclear intentions could be misread if a missile strike were to hit central military command and control, or cause the death of top civilian leaders. Amid rapidly escalating conventional armed hostilities across a long shared border, and in the absence of robust lines of communication, Indian and Pakistani leaders might have a few minutes to respond to the perceived threat of a nuclear attack.90 The former top Indian security official cited above also cautioned that domestic political pressures could imperil the restraining influence exerted by both countries’ nuclear capabilities on armed conflict.91

Concern that a war between the two states could spiral into the use of ever more deadly weapons is one of the reasons that the recent clashes triggered international alarm. Historically, the U.S. has played a fire-fighting role in South Asia, regularly pulling India and Pakistan back from the brink of war. This influence once again served its purpose during the May crisis. That said, the window of opportunity for diplomatic intervention was shorter than on earlier occasions, and could shrink further if the next crisis starts from a higher rung on the escalation ladder while India’s trust in Washington is wilting.

#### No checks on escalation---spirals to extinction.

Mark Lynas & Ted Nordhaus 25, Lynas is author of "Six Minutes to Winter: Nuclear War and How to Avoid It"; Nordhaus is director of the Breakthrough Institute, "One Nuclear War Can Ruin the Whole Climate," 05/15/2025, https://marklynas.org/2025/05/16/one-nuclear-war-can-ruin-the-whole-climate/

The world is on the brink of a climate apocalypse—not one caused by gradual greenhouse emissions but by a sudden exchange of nuclear weapons, a possibility made more salient by the current conflict between India and Pakistan. While the long-term effects of emissions are uncertain, we know that a nuclear war would result in an immediate nuclear winter.

When we think about nuclear apocalypse, we tend to think of the immediate effects: thermonuclear explosions that incinerate cities and vaporize populations. But the worst consequences unfold long after the weapons have detonated. A major thermonuclear exchange would shroud the atmosphere in soot, plunging the world into darkness and ushering in a decadelong winter. While hundreds of millions of people would likely be killed in the initial conflagrations, most of the human population—including those in the combatant nations—would likely die in the subsequent winter famine.

It’s comforting to think that an exchange of nuclear warheads in a regional conflict such as that between India and Pakistan might be more limited. The death toll from the detonation of a few dozen weapons might only number in the low millions, and there would be little effect on planetary temperatures.

But if India bombed Islamabad and Pakistan bombed Mumbai in retaliation, it would be hard to prevent further escalation. Moreover, once intercontinental ballistic missiles are in the air, it’s virtually impossible for other nuclear-armed nations to determine where they’re headed. Leaders in Washington, Moscow and Beijing would need to make decisions in a matter of minutes about whether to launch their own weapons.

Midrange scenarios involving a few hundred weapons would cool the climate enough to decimate global food production and trade and would likely kill hundreds of millions.

Under worst-case scenarios, droughts and crop failures would quickly spread across the globe. Hundreds of millions of refugees would cross continents in search of food, safety and shelter. Some would die of disease and illness, most of starvation. Human civilization would be over.

### Modeling IL - 1AC

#### India imported the American farmworker coop system wholesale---this liberalization significantly improved service delivery but led to oligopoly, unstable prices, and exploitation. Strengthening legal protection for collective bargaining by end producers is goldilocks, mitigating both private AND public centralization costs.

Nilabja Ghosh 13, Agricultural Economics Research Unit, Institute of Economic Growth, New Delhi, Delhi, India, "International Perspectives and Lessons Gained," India's Agricultural Marketing: Market Reforms and Emergence of New Channels, India Studies in Business and Economics, Springer India, 2013, pp. 29-42, DOI 10.1007/978-81-322-1572-1\_3

3.1 What Experiences in Developed Countries Convey

The roots of reforms in agro-markets signifying a rebound from their state subservient status can be found in the west. In particular, the USA is a forerunner that has gained considerable experience in liberalized food marketing. The marketing system is however far from uniform in the western world, and the experiences in different western countries demonstrate that implications of alternative systems still beg resolution. For instance, grain has been a central component in the development of agriculture in the USA and Canada, but there is little consensus on whether the reliance on a few large multinational giant firms is in the best interest of the US farmers and also whether the Canadian marketing system should ideally allow space for greater private participation (see Notes for an overview of the marketing systems in the two countries).

3.1.1 The Relevance of Transparency and the Demise of Spot Prices

The free trade tenet is advocated by subscribers of neoclassical economics for the objectivity of its price signal and the transparency of transactions. Even in the modern and much modified milieu, distortion of the price signal is seen as the biggest weakness of state interference in markets. Yet a comparison between the US and Canadian cases did not succeed in defending any such assertion.

McCalla and Schmitz (1979) emphasize that ‘beyond the superficial’, what actually transpires is much more complex than what meets the eye. The system appears much more transparent in the more state-controlled Canadian system where costs of marketing and salaries of personnel are required to be published officially while in the USA, access to complete and reliable information on grain marketing cannot be placed on public domain with full assurance. Although a recent legislation requires private companies to report sales above a certain magnitude, how this commitment can be enforced still remains a challenging question especially when various evasion possibilities are open to multinational companies operating across the globe.

Experiences of developed countries also suggest that the rise of contract marketing has made price information not only less available but more intriguingly, also less relevant. Increasing product differentiation and the complexity of measuring and verifying product quality make reported prices less illuminating on what to produce and even when to exit the farm sector. Price, as understood from the neoclassical economic literature, is the outcome of demand and supply forces working in the market for homogenized commodity and is best discovered through suitable forms of auction. With product specificity and the presence of small groups of buyers and sellers, the issue needs a degree of reconceptualization, and pricing process is required to be tailored to the context. When the contract takes place, a contract price is determined by mutual bargaining which means relative strengths of the negotiating parties and the information base each has access to at the time are the key forces acting on price determination. The fall of the spot prices that have served for years as a signal to the producer could be a symptom of impending difficulty for policy makers in coming times.

3.1.2 Entry Barriers Again and Producer Defence

While prior contracts with buying companies help producers to hedge price risk and access both technology and a wider market, the reach of the system at the upstream end is widely shown to be confined only to limited sections of farmers. Contracting restrains producers outside the contract from accessing the supply chains (Hobbs and Young 2000). Even if joining the chain were an option, because, severe contractual obligations weigh down on the participating producer and relevant information on the actual functioning of the channel is scarce to outsiders, the decision to join and the task of choosing the supply chain are not simple for the non-participating producer either. The market power structure that evolves from such choices defies full comprehension.

Stringent requirements of sophisticated production skills and tacit actions favouring bulk sellers rather than small farmers are known to constrict the entry into the chains of producers except the most resourceful and the privileged ones. In effect, the oligopsonistic forces inherent in the contractual system become the alternative to the ‘survival of the fittest norm’ that traditionally describes competition. With powerful trading companies finding easy membership, the market committees of emerging channels too become less representative.

The possibility that large contractors will use their market power to turn contract conditions against producers has motivated producers to form associations to bargain collectively in a way similar to labour unions. Producer organizations in Europe, the Agricultural Fair Practices Act (AFPA) in the USA (along with supplementing laws passed by the federal states), Farmers Legal group in Minnesota, legal protection of producer rights extended by Canadian government and National Farmers’ Union and other initiatives to develop standardized practices in the UK are some of the examples in which market fairness is sought to be maintained by this means.

This trajectory despite its usefulness has its own threats for development. Evidences of unions becoming too demanding and aggressive for the viability of the sector and the welfare of the workers they serve and more specifically of the workers operating outside their pale are ample in industry. The government’s role in modulating and balancing the practices assumes importance in different ways in this regard. In developing countries, the task of uniting farmers into collectives is not an easy task given that farming has traditionally evolved as independent and generally family-based activity quite unlike the regimented cadres of factory-based industries. Organizing legal support for this large mass of farm operators, even if united, is even more daunting. The presence of a large number of small farmers with their low levels of awareness, the deviation of the new system from the familiar and long-standing one and the profound complexity of informational asymmetries between the two parties make the reconstitution of developing agriculture into its new incarnation a historic step.

3.1.3 Loss of Independence

The transformation of the US agriculture from a body of traditionally independent farmers to a vertically integrated system with the farmer as a mere component in the channel has yielded valuable experiences to other countries. For instance, producers of peanut and tobacco traditionally functioned as independent decision makers protected by federal programmes. In the case of poultry, another major activity in the US agriculture, chicken was historically reared on most farms that were diversified and supported by thousands of small competing family-owned hatcheries, feed mills and processors.

As production contracts gradually gained ground, federal programmes faced deep trouble. Fixing guaranteed prices to peanut farmers in practice since the 1930s radically changed in 1996 when the legislated price floor was cut by 10 %. The situation was different in the case of tobacco where the decline that is in process since the 1950s intensified by the political and legal pressures of the 1990s. In poultry, the dispersed system of chicken farming and hatcheries radically transformed into horizontally and vertically integrated agribusiness farms and production contracts. However, the transition has yielded reasonable income levels. Tobacco farmers, faced with depressed demand and deeply ethical constraints, found support in alternative avenues as a fallout of the developments. Farmers in less productive regions actually emerged successful because they got access to better technology and marketing support. Yet, in spite of the dividends, discontent arises from the fact that farmers are treated like ‘less than’ employees rather than entrepreneurs. They have forfeited their traditional freedom of taking the decisions to adopt a technology.

3.1.4 Implications for the Urban Consumer

Supporters of the fast-growing modern food retail sector (UNIDO 2009; Shepherd 1965) argue that this sector has so far been unduly suppressed preventing benefits like economies of scale, globalized procurement and thereby expanded product choices from reaching the consumers. This argument is however easily critiqued for its consumer-centric emphasis. A patent disregard of the political implications for urban unemployment due to the displacement of existing suppliers is another charge. The capability of the modern retail system to cater to the demands for fresh food is questionable. Evidences show that supermarkets prove more successful in selling processed foods and staples but fall short of informal vendors in the quality standards of fresh food (Reardon and Minten 2011). In the downstream end too, the reach of the channel across different consumer classes is likely to be limited. In the face of growing concerns over deteriorating food habits, obesity and loss of nutrition whether the urban consumer really gains is unanswered when the product purchased is seen in a broader perspective.

3.1.5 Agro-ecological Prophesy

A clash between peasant agriculture and the agribusiness model relying largely on contracts between producers and buyers is intensely critiqued by agro-ecologists. Input application in farming in modern chains is largely external and driven by recipes provided by external sources as against the closed peasant system in which input use, based on principles of biology and individual experience, incorporates flexibility, adaptation and resilience. Farmers’ purposeful responses to various factors as reflected in their day to day decisions are seen to be the key to sustainability of agriculture. Extension in agriculture lies at the crossroads given the apparent contradictions between sustainability and profitability.

The agro-ecological approach would rest on an extension system that is led by the farmers themselves rather than private entities or even the state. Exchange of ideas, adaptation and documentation of best practices are deemed as ideal principles for sustainable agriculture. When farmers lose their power of independent decision making, any mistake on part of the provider can mean disaster or bankruptcy with little leeway for redemption. Even as public extension, as a means of delivering proven laboratory techniques and socially oriented formulas to the field, loses relevance, it is observed that the contracts incorporate hardly any provision for training and extension. The sponsors generally favour commercial crops forcing farmers to be dependent on market for their food security. With intensive use of chemicals to attain high yield rates, their land is liable to become unsuitable for food cultivation over time making the process nearly irreversible.

A recent study conducted by the Institute of Mechanical Engineers suggests that as much as 50 % of food products around the world never reach human stomach (Fox and Fimeche 2013). One third of UK vegetable crops are not harvested due to them failing to meet the exacting standards based on their physical appearance. Consumers also throw away half of the purchased food in Europe and the USA. Poor engineering and agricultural practices as well as inadequacy of storage facility even in the organized sector are reflected in the wastage. The sales strategies tacitly encouraging consumers to overbuy through supermarket schemes (such as buy 1 get 1 free) are symptomatic of these difficulties. Producing food imposes pressure on resources like land, water and energy, and with the need for feeding three billion people by the end of the century looming large, the loss of food through wastage needs to be contained by sustainable ways of operation from farm to market and from market to consumers. How far the private sector-driven, contractual and recipe-based farming system fits with the emerging global concerns is not resolved.

3.2 Experiences in Developing Countries and Transitional Economies

In the years following 1980 and more so in the 1990s, a number of developing countries were in a process of reforming their agricultures to eliminate price distortions (that most often went against the producers’ interest). The motive forces of the reforms were many, but external impetus possibly dominated the drive while internal resistance slowed down the pace. In the case of some of the least developed countries, independence from food aid was an added objective, in which international agencies provided fuel. Huge debts and external borrowings helped to bring others in the net while the internal burden of market failure, food insecurity and uneconomic surpluses also contributed to the imperative to allow private enterprise and to open up the borders in some countries.

The prereform scenario in developing countries was shaped by the urge to mitigate the problems resulting from poor functioning of agricultural markets inherited from colonial times. In order to stabilize farmers’ incomes, ensure food security and protect smallholders from uncompetitive marketing practices (Dehn 2000; Timmer et al. 1983; Myrdal 1956), regulations and state controls were routinely resorted to in these economies. The recent spate of reforms therefore has not been easy in welfare nations and aroused apprehensions. Land fragmentation and preponderance of small farms raised the spectre of inequality as well as incomplete participation in reforms creating political unacceptability of reforms. Limitation of the land market manifested in inadequate land rights, failure of institutional finance to meet farm requirements, persisting insecurity about food supply especially arising from droughts, urban bias in development and possibilities of unemployment of small traders naturally create resistances against reforms. Administrative weaknesses, corruption and lack of capital and skill were additional deterrents.

Actual implementation of reforms could be influenced by an assortment of complex sociopolitical factors such as forms of governments, ideologies of ruling governments and opposition pressure if political opposition is possible in the system. In democracies, the nearness to election and rural and urban representations in electorates also determine the pace of systems. Other factors include the current openness of the economy, requirement for external loans, persuasion from lenders, economic crises and other compulsion for reforms (Giuliano and Scalise 2009).

3.2.1 African Experiences

In Africa, reforms that started in the early 1980s proceeded along with structural adjustment and democratization. Donor agencies had a significant role in pushing for reforms given an agenda set by the World Bank’s ‘Berg report’1 in 1981. The food markets in these countries were dominated by large state or parastatal agencies.

Reforms were targeted at withdrawal of state involvement in pricing and marketing and relaxation of regulations on marketing. The Ethiopian government curtailed the operation of its state marketing board as part of aid conditionality in 1990. Aid conditionality was also instrumental in commencing reforms in maize market in Kenya in the 1980s. In Zambia, the newly elected government in 1991 withdrew direct government involvement in grain trade and encouraged private enterprise. Reforms started in 1981 in Mali, a semi-desert country, but it was the democratization in 1991 that speeded up liberalization of the cereal market. Multilateral agencies advocated food market reforms in Benin and Malawi in sub-Saharan Africa as a central component of structural adjustment. Although shortening of channel is a central rationale for reforms, in reality intermediaries could not be eliminated in most cases.

Studies show mixed results from reforms. While evidences of increased private involvement, greater market integration and production gains are seen in literature, uncertain state commitment, inadequate private sector response and unimpressive growth impact are the overriding impressions. Market intermediation was taken up by private traders in most cases, but their lack of capital and poor education levels have been serious limitations. On the contrary, service delivery to small farmers severely suffered in areas vacated by the government when private enterprise failed to fill up the gap created as in Zambia (Mwanaumo 1999).

The experience of Mali highlights some degree of success in marketing millets, the importance of infrastructure for storage and transport and the possibility of an interaction between the sectoral reforms and macroeconomic reforms (Dembele and Savadogo 1996). In most cases, foreign capital did not flow in as expected while the number of NGOs grew. Though diversification was promoted, new crops actually proved uneconomic (maize in Zambia) in many cases. In Benin and Malawi, private traders responded but only as petty brokers with poor capital base, low specialization and insufficient access to credit (Gabre-Mdhin 2001). Contract farming, known for mitigating price risk, by and large excluded small farmers because of the high quality standards required by buyers, though pockets of success are noted in South Africa and Zimbabwe where small farmers integrated closely with the market and adopted organic methods (Singh 2012) for gaining advantage in the international market.

However, the records varied. For example, Uganda and Mozambique are countries where governments showed commitment to reforms. Certain countries openly resisted reforms. Zimbabwe reimposed controls on maize after initial experimentation. Veiled reforms with de facto state control were the case with fertilizer market in Zambia and Ethiopia and coffee in Malawi. A reversal was implicit in Ethiopia’s2 course of reforms. Failure was attributed by many to inadequate implementation of reforms (Jayne et al. 2002). In respect of cash crops cocoa, coffee, cotton and sugarcane, the pace of reforms varied among commodities and countries (Akiyama et al. 2003). Econometric analysis suggested that the share of producer prices of coffee was increased by reforms which imparted cointegration between world prices and grower prices (Krivonos 2004).

3.2.2 Centralized Economies

Modern economic theory based on presumptions of well-defined property rights throws little light on the implications of reforms for both the dynamics of the economy and the institutional trajectory of centralized economies. The move towards market economy was undoubtedly a shock to the erstwhile socialist countries which were stagnant and deceptively stable systems to start with. Agriculture in most of the countries in former Soviet Union (CIS), East Europe (CEE) and China was conducted in collectivized farms of large scale although private titles were not unknown in some of the constituent countries. Failure of agriculture was also an important if not a central reason triggering reforms in these economies.

The CIS and CEE countries, breaking out of the centralized control of communist regimes in a bipolar world in 1990–1991, had much to learn from experiences of developing countries. They differed from developing countries however mostly in the scale of cultivation, nature of land titles, ideological biases against markets and administrative difficulties of the revolutionary regime change. The large farms associated conventionally with economies of scale had laboured under the weight of transaction cost of monitoring and enforcement and the problems of moral hazard, shirking and free riding. Land privatization became a major component of the agenda. Nevertheless, large-scale collective or corporate farms continue to be important in most of the transition economies, with unresolved debates over land transfer persisting in many countries including Russia.

The agricultural transition was aimed at improving efficiency and productivity of farm production through the replacement of the institutional and organizational rigidities of the former command economy by market-oriented institutions. Downsizing of scale and greater individual accountability were the cornerstones of the change. Despite the weight attached to land relations, transitions are intrinsically multidimensional. As a result, indices had to be developed by multilateral agencies like the World Bank to capture the progress of reforms in dimensions such as price and market liberalization, privatization of agro-processing, development of financial markets and creation of market-oriented institutional framework for agriculture. These countries however shared common institutions with developing countries like state enterprises dealing in food procurement and distribution and the associated compulsions imposed on agriculture so that sharing of experiences retained its relevance.

Although privatization of the agricultural environment has proceeded in the European countries with an impressive success of the food industry achieved in Hungary despite lags in Bulgaria, Romania and ex-Yugoslavian countries, the complexities prevailing in the former Soviet Bloc countries such as corruption and bureaucracy led to a technological decline in the food industry and discouraged the inflow of foreign capital (Csaki 2000). Emerging evidences suggest that different policy environments also influenced land reform decisions (Lerman 2000b) in the formerly socialist countries. The CEE countries had marked differences with CIS countries in having smaller agricultural sectors, higher food standards but greater expectations about their level of living, creating demands on the reforms. All this makes assessments dissimilar and incomparable.

In China, food market reforms took place in a gradual way starting with de-collectivization in 1978 when the centralized system gave way to a more efficiency-based approach to marketing (see Notes). The new system remained flexible and sensitive to demand situations but with ‘retrenchment’ in reforms taking place whenever it was felt necessary. The motivation for liberalization arose when the system of procuring grains at depressed prices entirely for rationing in urban areas failed to encourage production to meet the growing needs of the urban populace. Empirical investigations in wheat market suggest that the efficiency of Chinese market improved over time (Wu and McErlean 2003). China has achieved a fair measure of success with the reduction of government control on agricultural markets and the vitalization of price mechanism, but vibrant wholesale food markets and governmental minimalist price intervention in select foodgrains remained important cornerstones in the transition.

Cuba’s experience was different. In Cuba, productivity in agriculture is perceived to have improved in early years of the revolution due to rural investments, but concentration in sugarcane cultivation built up a dangerous export dependency. The temporary attainment of food security which was different from food sovereignty (Rosset et al. 2011) created difficulties when the supporting socialist block collapsed followed by the US trade embargo in 1989. However, the country adopted a less external input-based and more diversified system although accepting the breaking up of state farms that were deemed incapable of this adjustment. The emerging extension system also developed more autonomous peasant agriculture where inputs were chosen by farmers’ own judgment and not by prescriptions provided by corporates or government agencies.

Myanmar, in Asia, was an inward-looking country. Harsh controls on an agriculture crowded with landless labour and more severe controls on rice marketing were a means of social control. Liberalization in 1987–1988 led to a relaxation of state control, removal of levies and entry of private intermediaries in the markets for cash crops pulses, oilseeds and beans. Export possibilities to India and the lack of political significance of these specific exportable crops especially pulses proved to be advantages for reforms. Impressive expansion of acreage, increase in productivity and trade followed. Input payments and also price contracts made in advance enabled by the reforms facilitated the success (Okomoto 2004). The effects of further political changes in the country remain to be seen.3

3.2.3 Challenges Awaiting India’s Public Policy Making

The urgency for India’s economic reforms arose from the poor functioning of the - state-controlled or ‘regulated’ markets and a financial crisis that necessitated borrowing from international agencies and a restructuring macroeconomy in 1991. Reforms in agriculture were a part of the process but were more difficult to implement than those in other sectors like trade and industry. Opening up agricultural markets is perhaps an even more daunting task. However, the historical Act of 2003 opened the gates for new channels to form in agri-marketing, but the path is yet long and fraught with debacles.

Amendment of the Agricultural Produce Marketing Act in India brings the relatively backward and poverty-ridden yet politically the most sensitive sector agriculture in close encounter with the new world of capitalism. Allowing varied channels of marketing agricultural goods to emerge could mean ravaging the production systems in place and even obliterating the marketing channels that had evolved over centuries. While excessive suspicions verging on paranoia can be misplaced when evidences of benefits are not sparse in areas where the ground has already been tested, there is enough reason for caution when one critically examines the fine prints.

Inflated intermediary margins in market chains enlarge the ratio of the earnings of non-production workers to those of production workers in agriculture (Goldberg and Pavcnik 2007; Bardhan et al. 2009). Market reforms as a policy in the wake of trade liberalization were motivated by a desire for efficiency. It is also important to appreciate that a new phase of capitalism has dawned bringing with it new complexities, as sweeping changes take place in managerial aspects of product delivery, aided by modern information technology. Curtailing avoidable margins perceived partly as entrepreneurs’ ‘reputational’ rents and partly as returns to managerial skills is also an issue that arouses concern.

Allowing greater freedom to potential traders, be they individuals or large organized conglomerates, to enter the business of agro-trade in ways that are flexible would allow the development of a market that is ‘contestable’, if not competitive, where the threat of competition would prevent runaway profiteering at the cost of producer or consumer welfare. Unproductive marketing costs and margins can be reduced by means of superior technology, improved managerial practices and elimination of redundant intermediaries. The changes could pave the way to greater investment in agriculture, higher production in terms of quality and quantity of output, better consumer satisfaction and higher prices reaching the producer.

Although freedom of markets is a central concern of the reforms, it is also an appropriate time to acknowledge the transitions in capitalism, the erosion of neoclassical beliefs and the demise of price purely as the specific concept that had been nurtured over the centuries and studied in economics. While even that notion of price was a victim of oversimplification in the presence of uncertainty and transaction costs (Coase 1937) giving rise to organized firms, the overwhelming desire to overcome unavoidable costs in the wake of the information revolution would generate new innovations (such as greater vertical integration, electronic transactions, prior contracts over price, production and quality, markets for risk and derivatives and a deluge of retail networks, franchises, telemarketing, e-selling and virtual selling), leading the pricing process to attain a new platform. As with firms, vertically integrated segments of marketing channels, can appear as collusions or function as ‘command economy microcosms’ making use of coercion-based mechanisms to minimize transaction costs and leave footprints in the power relations among channel members but in lesser public scrutiny.

The public policy needs to be prepared for challenges and complexities that would be novel. That reforms in agricultural market would lead to unpredictable dynamics, the emergence of organizational variety and nonstandard and unfamiliar business practices (Williamson 1985) is hard to refute. Public policy will also have to perceive the gradual shifts and act in concordance. With contracts stipulating rigid farm practices, the place of public extension has to be reinvented. In the same way when patents are awarded to innovations, the role of public research and development has to be redefined and aligned with the situation.

Yet any diminution or vacation of the public space could be disastrous when short-term profit-motivated instructions conflict with sustainability concerns or where intellectual property rights of rich companies deprive small producers of their rights to basic livelihood. Longer term and more profound questions on the merit of industrializing agriculture into mechanical assembly lines from independent decision making entrepreneurial units and its effects on ecology and human resources are not less discomfiting. The catastrophic possibility of the powerful entities deserting producers in distress or leading the way to food insecurity needs contingency provisions.

The decline of spot pricing and the challenge to our notion of prices would be a hard onslaught on policy making. The transparency of market information and even the relevance of the same would be a possible grey area to be prepared for. Food prices have guided the policy makers in making welfare plans and assessing fair practices and efficiency. With the close relations within the channel and the quality differentials difficult to measure, such reporting of market prices would be more difficult to access and quantify. Market intelligence reports can become less representative while information acquisition, processing and dissemination will require to be technologically more enabled. Asymmetries of information would be highly likely when one of the parties has access to the global market information. The traditional traders competing with one another and bearing personalized ties with sellers were a dominant source of price information for the producer, and their elimination can mean a severe damage to the information system. Whether the public information system or technology can fill up the gaps can be reviewed.

Rural markets are yet unequal, dotted with innumerable small and unorganized farms. Unfair terms in contracts are more likely to be imposed by the powerful buying organizations, and lack of transparency can make it difficult for the administrative process to monitor. Superior legal, managerial and financial resources with the traders increase the vulnerability of the producers to unjust contracts and the susceptibility of state officials to fall prey to unethical manipulations.

Official requirements of making contract terms public must be mandatory in practice but not easy to implement in spirit. Besides, rising incidences of disputes between contractors are also an additional challenge requiring restructuring of the judicial machinery to rise to the occasion. Some states in the USA require mediation prior to presentation of the case in court and specification of the arbitration procedures in the contract itself. Obligations to follow prescribed methods of cultivation, feeding animals, documentation and farm audits demand an altogether different set of skills of the producer as compared to traditional spot market where transaction was fairly straightforward. Resolutions of conflicts are also no easier in the new situation.

Organizing producers to gain bargaining strength and remedial power is a mechanism commonly considered essential for the success of the emerging system, but complications of excessive demands, unreasonable expectations and unmanageable volumes of arbitration cases are not unknown in developed countries. When producers are at a bargaining disadvantage, the economic outcomes could be efficiency only at the cost of welfare loss that the government has to manage. In the developed countries, competition and antitrust regulations play pivotal role in these matters, but this is by no means easy especially in Indian context. In the absence of clear price information and measuring protocols for quality, regulation could be a far more ominous challenge for developing countries.

The experiment with new marketing channels involving contracts in the western countries serves as eye opener for the developing countries that have embarked on the same path. Earlier, the advent of capitalism in a rural semifeudal agro-system in developing countries could not purge the system of class relations and nested agronomic processes that lead to interlocking in the markets. Those issues remain although they were mitigated by state intervention in the form of direct participation in markets, regulation of private trade-led markets and creation of markets where such markets failed to emerge.

The dismantling of the state activism and permission of the new capitalism to enter into agro-markets will unleash the embedded agro-markets in a new reincarnation manifested in vertical integration, contracts, consortiums and alliances. Together, the giant system would dominate the agriculture of today and tomorrow and decide the fate of small farmer welfare and food security of the nation. However, it is also pragmatic to note that the new capitalism may have less to do with competition than with collaborative and oligopolistic behaviour in a ‘competition-obsessed business culture’ striving to search for ‘returns to equity’ where large and powerful players can collude, deter entry, curb competitive innovations and influence not just markets but also policy (Meyer and Kirby 2012a). Gaining mileage from the potentials and containing the negatives would be the way forward in India to deal with the transition.

#### Climate shocks generate an acute need for new US models---Indian farmers are adopting new tech BUT that won't solve without bargaining power.

Pooja Singh & Vernika Mishra 24, Singh and Mishra are affiliated with Amity School of Economics, Amity University, Greater Noida, India, "Crisis on the Vine: Unraveling India's Tomato Price Surge Amidst Weather Extremes and Food Security Concerns," International Journal of Energy, Environment, and Economics, vol. 31, no. 4, 2024

Climate change is creating food price inflation, which disrupts the stability required for economic development and social cohesiveness. Erdogan, Kartal, and Pata’s (2024) paper in “Foods” examines the mechanisms aggravated by climate change, emphasizing the complex relationship between environmental changes and economic effects in the food industry.

Similarly, the intricate relationship between climate vulnerability and agricultural stability has been brought into focus by the recent surge in tomato prices across India. In cities like Delhi-NCR, Bengaluru, and Kanpur, the prices have skyrocketed to INR 80 per kg and even higher. This surge can be directly linked to the lack of sufficient rainfall and the subsequent onslaught of intense heatwaves experienced from April to June in 2023. Experts widely attribute this unprecedented meteorological pattern to the larger issue of climate change, which is significantly impacting the agricultural landscape of the nation. (see, Hindustan Times, June 27, 2023).

In the same vein, through alternative energy sources, for example, renewable energy, clean fuel, green and low carbon emission technology, pollution in the atmosphere can be reduced (Khan, Y & Khan, M (2021)). The strong connection between greenhouse gases and changes in climatic conditions is well-known, as climate change strongly impacts climate and increases its vulnerability. Among greenhouse gases, carbon dioxide (CO2) stands out as a major gas that harms the environment and influences human well-being (Ansari, T & Ansari, Z (2022)).

Climate Change’s Impact on Agriculture

The effects of climate change have resulted in an intricate network of outcomes across different industries, with agriculture being significantly affected. A research study titled “Mitigation of Climate Change’s Influence on Vegetable Crops” highlights the vulnerability of the agricultural sector to these changing weather conditions. The shifting climate has led to crop failures, decreased crop yields, compromised produce quality, and increased susceptibility of crops to pests and diseases. (Mahato, 2014, {Kurukulasuriya2003}) As a result, vegetable cultivation, including the cultivation of tomatoes, which hold great cultural significance in India’s culinary traditions, has become less economically viable.

Tomato’s Susceptibility to High Temperatures

Tomatoes are highly affected by changes in temperature, which makes them extremely vulnerable to the intensified heatwaves caused by climate change. Not only does high temperature impact the size and color of tomatoes, but it also disrupts their reproductive growth. (Xu, J., Wolters-Arts, M., Mariani, C. et al, 2017) The reproductive phase of tomato plants is more sensitive to elevated temperatures compared to their vegetative growth. Even a slight increase in temperature, as little as 2–4ºC, can significantly disturb crucial processes such as pollination and fruit development, resulting in significant decreases in yield. Additionally, excessive heat hampers the formation of floral buds and the essential process of photosynthesis, further worsening the challenges faced by tomato crops (Alsamir M, Mahmood T, Trethowan R, Ahmad N, Adams2001).

Additional Climate-Induced Challenges

The obstacles confronted by tomatoes because of climate vulnerability go beyond just heatwaves. Cold temperatures and various other climatic irregularities, including flooding, salinity, and waterlogging, exacerbate the difficulties faced in tomato cultivation. These cumulative challenges contribute to an intricate environment for farmers, affecting productivity, quality, and overall economic sustainability Adams, R. M., Hurd, B. H., Lenhart, S., & Leary, N. (1999).

Government Initiatives and Technological Innovation

The Indian government has taken proactive measures to address the threats posed by climate change on agricultural yields and pest vulnerabilities. The establishment of the National Research Foundation (NRF) with a significant allocation of INR 50,000 crore highlights the importance of climate-smart agriculture (CSA) as per the National Research Foundation Bill, 2023. This initiative aims to utilize dedicated research to strengthen climate adaptation strategies.

To combat the negative impacts of greenhouse gas emissions resulting from imbalanced chemical fertilizer use, a cap of INR 3.69 lakh crore has been imposed on fertilizer subsidies over three years (M. 2024, February 1). This redirection of potential savings aims to support agricultural practices that are resilient to climate change.

Additionally, the exploration of innovative technologies such as drones, sensors, artificial intelligence (AI), and the Internet of Things (IoT) is underway to enhance agrifood production, post-production management, and agro-processing. These technological interventions offer promising opportunities to steer India’s agricultural sector towards greater sustainability and resilience in the face of impending climate vulnerabilities. (FAO 2020)

In order to effectively address challenges like soil fertility loss, land degradation, and declining productivity, it is crucial that research, development, and technological integration efforts are aligned with specific crop requirements and regional contexts. By doing so, India’s agricultural sector can overcome the challenges posed by climate change and secure a more resilient future.

Economic and Social Implications

The increase in tomato prices in India is not just a random economic anomaly; it has farreaching effects on households and communities, exposing an intricate network of economic and social outcomes that highlight the crucial significance of tomatoes in Indian diets and everyday life (Online, E. (2023, July 18).

Impact on Households

The tomato price hike has had a profound impact on households throughout the country, with significant socio-economic repercussions. A recent survey conducted by Local Circles, which covered 11,000 households across 309 districts, has revealed some alarming findings. Shockingly, one out of every three households had to pay more than INR 200 per kilogram for. This unprecedented increase in prices has not only changed consumer behavior but has also forced many households to make difficult decisions. The survey further highlighted that 10% of respondents paid more than INR 250/kg, while 23% fell within the range of INR 200 to INR 250/kg. In a worrying trend, 17% of households even stopped purchasing tomatoes altogether, which clearly demonstrates the severe impact of the price surge tomatoes (Joshi, M., Circles, L., & Circles, L. (2023, August 8).

Despite efforts by organizations such as the National Cooperative Consumers’ Federation of India (NCCF) and the National Agricultural Cooperative Marketing Federation of India (NAFED), the upward trend in tomato prices has remained relentless. The Reserve Bank of India (RBI) has expressed its concern, attributing the surge to disruptions in supply caused by adverse weather conditions and pest attacks. This price volatility holds historical significance as it affects inflation and has a ripple effect on the prices of other vegetables in both retail and wholesale markets (See Business Standard 2023, July 17). With logistical challenges affecting the supply of government-subsidized tomatoes, a staggering 89% of households found themselves purchasing tomatoes at prices exceeding INR 100/kg, and one-third of them had to pay over INR 200/kg (FNB News. (n.d.).

Food Security Concerns

The tomato price crisis not only causes economic concerns, but also prompts reflection on the state of Indian agriculture and overall food security. The sight of farmers discarding excess produce in protest highlights deeper underlying problems that go beyond mere economics. This crisis also affects urban areas, where high tomato prices pose a risk of malnutrition, particularly among vulnerable urban populations. The severity of the situation is evident from the fact that even a fast-food giant like McDonald’s has been compelled to remove tomatoes from its menu due to their inflated costs, demonstrating the wide-ranging consequences that extend to international brands (Shan, 2023).

However, the tomato price crisis is not solely a result of supply and demand dynamics. Unpredictable climate patterns in the current year, characterized by untimely rainfall and cyclonic storms, have disrupted tomato cultivation, especially in southern and coastal regions that are typically reliable contributors to the tomato supply. Excessive rain has hindered plant growth, resulting in yield losses due to disrupted pollination during crucial flowering and fruiting stages. The lack of climate contingency plans for essential food crops and food security has further worsened the issue (Shan, 2023).

Considering the current crisis, the government has implemented various measures, including the TOP (Tomato-Onion-Potato) program as part of Operation Greens (MOFPI, Greens Short Term Intervention, June 2020). This initiative is designed to enhance the efficiency of supply chains and minimize losses after harvest by providing subsidies for transportation and appropriate storage facilities. The primary objective is to address the inherent weaknesses in the supply chain and alleviate the burden on consumers. Nevertheless, the broader socio-economic implications of this tomato crisis on food security present a complex challenge that requires comprehensive solutions to ensure the resilience of the nation’s food systems. One potential approach to controlling the tomato crisis is the adoption of crop production robotization, which involves the use of robotic harvesters and optimized field practices to enhance tomato production. (Omokaro, Idama & Uguru, Hilary (2021))

Rationale of the Study

As mentioned above, it has been observed that there are variety of factors that contributes to the Tomato price hike that seems to be influenced by various social and economic implications. In this present study the following questions have been raised which need to be verified in accordance with the documented interviews published on social media, E-Newspapers, magazines, blog.

1. How the sentiments of economic conditions impacting the trend/pattern of tomato price hike?

2. How is price hike affecting the sentiments of consumers?

Research Objective

1. To identify the contributing factors of tomato price hike through systematic literature review.

2. To identify economic and social implications of tomato price hike through systematic literature review.

3. To perform the content analysis from the interviews, opinions and articles published in E-Newspaper, magazines by the help of NVivo.

Methodology

This research paper utilizes a multi-faceted approach to thoroughly examine the intricate issue of tomato price surges in India. The approach encompasses quantitative data analysis, qualitative sentiment analysis, and an evaluation of economic theory.

1. Data Collection: Official sources such as the Department of Consumer Affairs, National Cooperative Consumers’ Federation of India (NCCF), Agricultural and Processed Food Products Export Development Authority (APEDA), The Food and Agriculture Organization of the United Nations (FAO) and National Agricultural Cooperative Marketing Federation (NAFED) surveys conducted by Local Circles, along with government reports on agricultural production and prices, are utilized to collect quantitative data. These sources offer a comprehensive overview of the extent of the price surge, its impact on households, and inflation trends.

2. Sentiment Analysis: Qualitative analysis is conducted using NVivo Software to capture public sentiment and perspectives on the tomato price surge. Social media posts, news articles, and public discussions are evaluated to gain a deeper understanding of the nuances of public opinions and sentiments towards the crisis.

3. Economic Theory Examination: The research paper examines the applicability of the Law of Demand to the tomato price surge. Economic theory is employed to assess whether the inverse relationship between price and quantity demanded holds true for tomatoes, taking into consideration their cultural significance, perishability, and indispensability.

4. Comparative Analysis: A comparative analysis is conducted to juxtapose the findings from quantitative data analysis, sentiment analysis, and economic theory. This crossvalidation enhances the understanding of the complexities surrounding the tomato price surge.

5. Case Studies and Expert Interviews: The research incorporates case studies from regions heavily affected by the surge and expert interviews with economists, agricultural experts, and policymakers. These insights provide real-world context and expert opinions on the causes and potential solutions.

Overall, this multi-dimensional methodology ensures a comprehensive and holistic analysis of the tomato price surges in India.

6. Theoretical Framework Application: The research paper utilizes the theoretical framework of climate-resilient agriculture, price stabilization mechanisms, and socio-economic implications to examine potential resolutions. Through the integration of these approaches, the research paper seeks to provide a comprehensive comprehension of the sudden increase in tomato prices, its socio-economic consequences, the relevance of economic theories, and possible avenues for sustainable remedies.

Sentiment Analysis-Points Derived from (NVivo Software)

Summary Analysis Based on Views and Sentiments Related to the Surge in the Price of Tomato

The recent increase in tomato prices in India has attracted significant attention and raised concerns regarding its impact on household budgets and inflation. The rise in prices can be attributed to a combination of factors, including crop damage caused by unfavorable weather conditions, pest infestations, and logistical difficulties. Tomatoes, which are a staple in Indian households, have experienced a significant price hike, reaching up to Rs 200 per kilogram, placing a financial burden on consumers. The primary tomato-producing regions, such as Maharashtra, Karnataka, and Andhra Pradesh, have been adversely affected by weatherrelated problems, resulting in reduced supplies and higher prices. This shortage of tomatoes has also affected the availability of other vegetables, contributing to a general increase in prices for essential cooking ingredients. In some cases, the scarcity of tomatoes has even led to their removal from certain fast-food menus due to unavailability. Although some relief is expected with the arrival of new tomato crops, the situation is projected to persist, impacting inflation rates and household budgets. The surge in tomato prices underscores the challenges posed by environmental factors and supply chain issues in maintaining stable food prices in India.

[FIGURE 1 OMITTED]

INTERPRETATION:

Figure 1 represents the theme analysis from views which indicates the major points that has been discussed in the views. The major points in views on tomato price hike includes prices, market,saw pest attacks,inflation and many more that is highlighted in the above picture.

[FIGURE 2 OMITTED]

INTERPRETATION:

The recent increase in tomato prices in India has raised significant concerns among both consumers and economists. Unlike discretionary goods that can be easily replaced or avoided, tomatoes are considered essential items that are vital to everyday life and cuisine. This poses a particular challenge for consumers who cannot easily switch to alternatives.

Tomatoes hold great cultural and culinary importance in Indian households as they are a key ingredient in a wide range of traditional dishes. They not only enhance flavor and provide nutritional value but also play a crucial role in achieving the desired texture and taste in various preparations. The versatility of tomatoes in curries, sauces, chutneys, and salads further solidifies their indispensability in the Indian diet.

Given this context, consumers have limited options when it comes to adapting or substituting tomatoes in their meals. Unlike discretionary goods that can be replaced or omitted, the absence of tomatoes can significantly impact the quality, taste, and familiarity of traditional dishes. Such a fundamental change in daily meals is often met with resistance, especially in a country where food is deeply intertwined with cultural practices and family traditions.

The challenge of finding alternatives is further compounded by the fact that tomatoes have a relatively short shelf life and are highly perishable. This makes it difficult to stockpile or purchase in bulk as a means of managing price fluctuations. Additionally, other vegetables that could be considered as substitutes, such as potatoes or onions, have also experienced price increases due to similar supply and climate-related challenges.

In conclusion, the increase in tomato prices presents a unique dilemma for Indian consumers. The necessity of tomatoes in daily cooking, combined with their irreplaceable role in traditional dishes, leaves consumers with limited flexibility.

The tomato’s significant role in Indian cuisine creates a challenge for consumers to replace or remove it, unlike discretionary goods. This underscores the intricate relationship between cultural practices, dietary habits, and economic obstacles. Consequently, the repercussions of the tomato price increase extend beyond economic factors, emphasizing the intricate connection between food, culture, and consumer behavior.

Economic Theory Examination – (Law of Demand)

Based on the aforementioned facts and data, this research paper seeks to examine whether the recent increase in tomato prices adheres to the Law of Demand. The Law of Demand states that, all else being equal, as the price of a good or service rises, the quantity demanded decreases, and vice versa, as the price decreases, the quantity demanded increases. Although this economic principle generally holds true for most goods, the unique role of tomatoes as a necessity in the Indian context introduces certain complexities.

The paper concludes that the Law of Demand may not apply to tomatoes as straightforwardly as it does to other goods. This is primarily due to the deep-rooted presence of tomatoes in Indian culinary traditions and cultural practices. They are an essential ingredient that contributes to the flavor, aroma, and overall experience of various dishes. Consequently, the demand for tomatoes may exhibit a certain level of inelasticity.

Tomatoes are not easily replaceable or substitutable in many traditional Indian recipes. Consumers are often unwilling to compromise the taste, texture, and authenticity of their meals by substituting tomatoes with other ingredients. This creates a situation where even if the price of tomatoes increases, the decrease in quantity demanded might not be as significant as predicted by the Law of Demand.

Furthermore, the perishable nature of tomatoes and their short shelf-life limit consumers’ ability to stock up or delay purchases in response to price hikes. This time-sensitive aspect further diminishes the applicability of the Law of Demand.

In summary, the complexities of the tomato price surge in India, stemming from the cultural and culinary significance of tomatoes, challenge the full applicability of the Law of Demand. While economic theory suggests that higher prices should result in decreased demand, the indispensability of tomatoes in traditional cooking practices and the constraints posed by their perishability create a unique situation.

[FIGURE 3 OMITTED]

INTERPRETATION:

Figure 3 represents the hierarchy tree from views on tomato price hike which indicates that there is more neutral and negative sentiments in Indian economy as tomato plays a pivotal role in Indian cuisine and it is driven by climate vulnerability, supply chain disruptions, and regional disparities, impacting food security.

[FIGURE 4 OMITTED]

INTERPRETATION:

Figure 4 represents word cloud which generated through views on tomato price hike. It depicts the tomatoes is at the centre and is surrounded by words mostly related to demand, consumers, price, and Indian economic challenges.

DISCUSSION

The recent surge in tomato prices in India has created an immediate need for well-defined strategies and collaborative efforts to address the economic and social implications of this situation. As tomato costs continue to rise, several potential solutions and avenues for future actions emerge.

Government intervention plays a crucial role in stabilizing the fluctuating tomato prices. The cyclical nature of low prices, which leads to reduced arrivals and subsequent price spikes, has been evident in historical patterns. This highlights the necessity for consistent pricing mechanisms. Although solutions such as cold storage and tomato processing have been suggested, there are challenges in implementing them. The government’s involvement, particularly through mechanisms like bargaining councils, has the potential to establish fair negotiations and reserve prices, thereby promoting stability in the market. The concept of a Collective Bargaining Council (CBC), inspired by models such as the US Agricultural Fair Practices Act, shows promise in advocating for farmers and enforcing negotiated reserve prices. The key to achieving enduring price stability lies in comprehensive regulatory frameworks that address bargaining imbalances and empower farmers (Bhan, 2023).

In the field of agricultural research and development, innovation plays a crucial role. It is essential to create tomato varieties that are resilient and can withstand the challenges posed by climate change, pest infestations, and market fluctuations. The National Innovations on Climate Resilient Agriculture (NICRA) project is an example of an initiative that shows a dedication to improving agricultural resilience. By developing tomato strains that are droughttolerant, disease-resistant, and have a longer shelf life, we can ensure food security and a consistent supply (Ahire, R. D., Kale, N., Pise, G. K., Ahire, R. D., & Kale, N. D. (2018).). Using technology, scientific knowledge, and collaboration, these resilient tomato varieties can contribute to a more climate-resilient agricultural sector.

Ensuring the accessibility and affordability of tomatoes necessitates innovative approaches. By utilizing technology such as data analytics and predictive tools, farmers are empowered to forecast cultivation periods and address weather-related obstacles. It is crucial for the government to play a role in raising awareness and facilitating access to technology. Additionally, investing in post-harvest infrastructure and offering subsidies for technologies like drip irrigation can expand the areas suitable for cultivation and enhance yields. Collaborative initiatives, such as farmers’ collectives, have the potential to drive transformative change and bolster food security (Singh, D., Biswal, A. K., Samanta, D., Singh, V., Kadry, S., Khan, A., & Nam, Y. (2023).

The increase in tomato prices highlights the complex nature of the agricultural industry and the wider implications of fluctuating food prices. By acknowledging the various factors contributing to this issue, the government’s proactive approach, such as the Tomato Grand Challenge, demonstrates its dedication to finding comprehensive solutions. This forwardthinking strategy aims to improve tomato production, processing, and storage, reducing losses and adding value to the supply chain (P. (2023, June 28).

Advancements in areas such as better tomato varieties, the dissemination of crop planning information, and improved storage technologies are in line with the objective of stabilizing prices. The changing climate patterns and market dynamics require innovative strategies that incorporate predictive tools and informed cultivation practices.

Efforts by state governments further emphasize the potential of localized interventions in mitigating price surges. The ongoing surge in tomato prices serves as a catalyst for a holistic approach that involves strategic government intervention, technological innovation, and community participation. By aligning these elements, India can navigate the complexities of the tomato market, minimize price fluctuations, and ensure that all segments of society have access to this essential vegetable. This collaborative effort demonstrates the resilience of India’s agricultural sector in the face of challenges (FNB News. (n.d.)).

### Megacities – 1AC

#### Causes South Asia refugee crises, mass radicalization, and megacity collapse.

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Climate change and extreme weather events are disrupting social and ecological systems throughout Pakistan, amplifying the risk of conflict and/or displacement by driving resource competition, exacerbating inequities in access and distribution, and directly impacting livelihoods and food security. These trajectories interact with pre-existing economic, social, and environmental insecurities to drive new or reignite pre-existing tensions. At household level, when in situ adaptation fails, out-migration increases in likelihood. At the local level, rural communities that rely heavily on agriculture and related livelihoods are especially vulnerable, as changes in resource availability, access, and usage heighten human security challenges. At the national level, inter-provincial competition over resources, exacerbated by climate-related resource scarcity, fuels ethnic divisions. Political tensions between provincial administrations over water distribution and hydropower development— such as the Kalabagh and Diamer Bhasha Dams—extend to community-level conflicts. These inter-provincial tensions are driven by power imbalances between upstream and downstream provinces, unequal distribution of risks and benefits, socio-economic disparities, and historical grievances (Mustafa et al. 2017). At community level, water can become a tool of conflict rather than a cause. It is often used as leverage in local political and ethnic struggles, particularly to rally agricultural communities against opponents in Punjab and Sindh, where access to clean water and irrigation water is a major point of contention (Ranjan 2012). Displacement can result when either local social-ecological systems fail to support livelihood generation, extreme weather forces households to flee for safety, or when increasing violence becomes too much to bear. Internationally, the fragile water-sharing agreement between Pakistan and India remains susceptible to geopolitical strains and climate-related pressures. The cascading impacts of climate change on Pakistan’s land and water systems are intensifying human security challenges and elevating the risk of conflict and/or displacement.

Rising temperatures, shifting rainfall patterns, and accelerated glacial melt are also straining Pakistan’s surface and groundwater resources. Climate change affects the water cycle through increased evaporation, altered monsoon patterns, rapid Himalayan glacier melt, and reduced groundwater recharge (Maqbool 2023). These changes heighten water stress, decrease storage capacity, and increase the variability of river flows (Maqbool 2023), leading to more frequent flooding (Babur et al. 2016). Groundwater depletion, driven by overextraction, shifting cropping patterns, and reduced recharge, disproportionately affects rural and urban populations reliant on this resource (Mujtaba et al. 2022). For example, surface water availability during the kharif season declined from 7.75 billion cubic meters (Bm³) in 2013 to 4.81 Bm³ in 2018, with similar trends during the rabi season (Mujtaba et al. 2022). This scarcity increases agricultural water demand, leading to resource competition and inequities in access. Groundwater depletion significantly affects the access and distribution of water for more than 70% of urban and 97% of rural populations, who rely on it for household needs and livelihoods (Mujtaba et al. 2022). In Balochistan, the karez system—a community based system of groundwater extraction for agricultural irrigation—has sustained communities for thousands of years but is now under threat from increasing over-extraction. These climate-related pressures pose a direct threat to traditional ways of life and, thus, social cohesion.

Rising temperatures and changing precipitation patterns are disrupting biodiversity, particularly in the northern mountains and marine ecosystems, accelerated by human activities. In the north, accelerated glacial melt threatens native species, while invasive species that prey on crops, such as wild boar in Khyber Pakhtunkhwa, thrive (Khan, Gul, and Khan 2015). Overgrazing and deforestation further degrade these ecosystems, undermining agriculture and livelihoods (Khan, Gul, and Khan 2015). This increases the likelihood of displacement in peaceful areas, such as in Gilgit-Baltistan, and conflict-prone areas, like Khyber Pakhtunkhwa and Balochistan, where livelihood insecurity exacerbates existing vulnerabilities or creates new ones, driving people to leave their homes. In marine environments, coral bleaching and changing currents jeopardize fisheries, posing risks to coastal communities dependent on these resources (Haider Ali and Hussain 2023). Due to Karachi’s proximity to fishing communities, it is a common destination for rural-urban migrants, whose arrival can amplify tensions over resources (land and water) and economic opportunities, in a dense city already burdened by generalized crime, poor public services and infrastructure, ethnically-drive politics, and sectarianism.

Climate-related disruptions to water and land systems threaten Pakistan’s agricultural productivity, food security, and rural livelihoods. Poverty, food insecurity and landlessness has been linked with increased likelihood of violent conflict in Pakistan (Malik 2011). Key crops, such based system of groundwater extraction for agricultural irrigation—has sustained communities for thousands of years but is now under threat from increasing over-extraction. These climate-related pressures pose a direct threat to traditional ways of life and, thus, social cohesion. Rising temperatures and changing precipitation patterns are disrupting biodiversity, particularly in the northern mountains and marine ecosystems, accelerated by human activities. In the north, accelerated glacial melt threatens native species, while invasive species that prey on crops, such as wild boar in Khyber Pakhtunkhwa, thrive (Khan, Gul, and Khan 2015). Overgrazing and deforestation further degrade these ecosystems, undermining agriculture and livelihoods (Khan, Gul, and Khan 2015). This increases the likelihood of displacement in peaceful areas, such as in Gilgit-Baltistan, and conflict-prone areas, like Khyber Pakhtunkhwa and Balochistan, where livelihood insecurity exacerbates existing vulnerabilities or creates new ones, driving people to leave their homes. In marine environments, coral bleaching and changing currents jeopardize fisheries, posing risks to coastal communities dependent on these resources (Haider Ali and Hussain 2023). Due to Karachi’s proximity to fishing communities, it is a common destination for rural-urban migrants, whose arrival can amplify tensions over resources (land and water) and economic opportunities, in a dense city already burdened by generalized crime, poor public services and infrastructure, ethnically-drive politics, and sectarianism. as wheat, rice, maize, cotton, and sugarcane, are facing yield declines due to rising temperatures, floods, and droughts (Nadeem, Jacobs, and Cordell 2022). For example, higher temperatures have negatively impacted wheat, while erratic rainfall disrupts rice and maize growth (Syed et al. 2022). The decline in wheat yield and basmati rice production is expected to worsen food insecurity and malnutrition, especially in rural areas (Syed et al. 2022). In livestock, heatwaves and water scarcity have reduced milk production by 20–30%, affecting farmer incomes (Q. Abbas et al. 2019). These challenges are particularly acute in regions like western Sindh and Balochistan, where agricultural output is heavily dependent on groundwater (Q. Abbas et al. 2019). Declining productivity exacerbates rural poverty and malnutrition, leaving communities more vulnerable to socioeconomic instability. Areas with high levels of deprivation, such as Swat, North Waziristan, and Dera Bugti—where food insecurity is particularly acute—are also among Pakistan’s most conflict-affected regions (Malik 2011).

Urban centers including Islamabad, Karachi, Lahore, Peshawar, and Rawalpindi face increasing risks from urban flooding, heavy downpours, heatwaves, droughts, storm surges, and flash floods (Atta-Ur-Rahman and Shaw 2015). These climate hazards exacerbate the pressure on an already depleted and scarce land and water resources, and on the limited capacity of the administration to provide adequate infrastructure or basic services such as electricity, water, and waste disposal. These hazards further exacerbate health risks, such as the spread of diseases and air pollution (Babar et al. 2021). Rising food prices due to reduced agricultural productivity further increase urban inflation, disproportionately affecting vulnerable populations (Bandara and Cai 2014). Poor urban planning has led to the proliferation of densely populated, disadvantaged, low- income settlements such as Ibrahim Hyderi, Lath Basti, and Rehri Goth in Karachi. Migrants, sometimes already displaced from other areas, tend to settle, but often face additional environmental hazards that increase the threat of being displaced once again (ICRC 2020). Large, insecure urban areas like Karachi are susceptible to ethnic politics and sectarianism, with rural-to-urban migration potentially exacerbating existing crime, terrorism, and generalized insecurity (Ahmed 2018).

Climate change and extreme weather events increase the scarcity of the natural resources necessary for livelihood generation. This includes the water, land, and forests essential for agricultural production (crops, livestock, fishing) and linked value chain actors, as well as manufacturing, food processing, and textile production. This in turn, can increase the likelihood of intra- and inter-communal conflict in areas dependent on these vulnerable livelihoods. For example, water shortages in Khyber Pakhtunkhwa’s Karak district have led to violence (Rasool, Saeed, and Shah 2020). In Khyber Pakhtunkhwa’s Newly Merged Districts (NMDs) landlessness, food insecurity, and poor resource access contributes to the growth of militant groups, such as Tehrik-e-Taliban Pakistan (TTP), who exploit these grievances to mobilize support from marginalized communities (Saad, Mahsud, and Mian 2024). In the wake of the 2010 and the 2022 floods, terrorist organizations such as TTP, Jamaatud-Dawah (JuD), Lashkar-e-Taiba (LeT), and the Baloch Liberation Army (BLA) increased relief and aid operations in KP and Balochistan, garnering local sympathy and bolstering their recruitment efforts (Saad, Mahsud, and Mian 2024). Additionally, the potential for civil unrest and social discord is exacerbated by district, provincial, and federal governments that struggle to provide basic services, economic opportunity, or fully address social grievances.

Furthermore, elites often capture resources through corruption, favoritism, nepotism, and bribery, leaving marginalized communities without access to agricultural land, water, and productive infrastructure (B. Aslam, Akhtar, and Nasim 2022). Water scarcity has heightened inter-provincial political tensions, with the Government of Sindh accusing the Government of Punjab of overusing Indus River water for irrigation and hydroelectric projects, exacerbating ecological concerns and political instability (Imran 2021). At the regional level, India and Pakistan’s water cooperation under the Indus Waters Treaty is strained by climate change and contested hydroelectric projects, heightening the risk of an international dispute (Zahoor 2024).

Pathway 2:

CLIMATE AND CONFLICT-RELATED MOBILITY LEADING TO HUMAN SECURITY RISKS IN ORIGIN AND DESTINATION AREAS

Displacement and forced immobility stemming extreme climate hazards and/or pre-existing conflict present significant challenges to human security, increasing the risk of additional forced migration and/or conflict—if poorly managed. Climate-related migration disrupts the human security of affected populations, particularly through its impact on livelihoods, entrenchment of poverty, and the state’s inability to provide adequate aid and basic services (Barnett and Adger 2007). These migration patterns interact with preexisting tensions and introduce new pressures on resources, economic conditions, and livelihood opportunities in destination areas, amplifying the risk of conflict. Factors such as resource depletion, overpopulation, economic competition, and disputes over land and water use in urban centers; such as Karachi, Lahore, Islamabad, have been identified as significant drivers of conflicts linked to climate-related mobility in Pakistan (F. Ali et al. 2018). In 2010, many flood-affected households migrated to Mohajir areas in Karachi, including Sindhi households from interior Sindh and Pashtun households from Khyber Pakhtunkhwa. These shifting demographics triggered resentment among Muhajir communities due to increased competition over land, water resources, and economic opportunities, leading to a notable intensification of ethnic conflict in the city (Makki et al. 2020; Crisp, Morris, and Refstie 2012).

Between 2008 and 2023, 25.5 million people were displaced by climate events, with 95% of these displacements resulting from floods. In some cases, the increasing frequency and severity of climate-related disasters have led to repeated displacements (H. B. Waseem and Rana 2023). Some return to areas of origin, despite the likelihood of recurring climate hazards, particularly flooding (Salik et al. 2020). Reasons for return include the psychological connection one’s home, formal land ownership or informal rental agreements, social ties, and limited financial resources (Salik et al. 2020). Pakistan now faces increasingly severe annual flood events. When combined with pre-existing poor socioeconomic conditions, elite exploitation, and the state’s inability to efficiently disburse aid, these events exacerbate grievances among affected populations, creating tension not only with the state but also with local elites and along ethnic lines. For example, following the 2010 floods, inequitable distribution of relief and recovery resources aggravated historical tensions between landowners and tenant farmers (Arai 2012). In Sindh, landlord-tenant relations, already fraught, deteriorated further as landlords controlled aid distribution, using it to assert social control (Arai 2012). Repeated extreme events continue to strain the state’s capacity to deliver aid and address the basic needs of affected populations, including shelter, sanitation, and livelihood support. Since the devastating floods of 2022, the state and international community have struggled to mobilize resources matching the country’s needs (Frege et al. 2023). International aid pledged remains only partially disbursed, highlighting gaps in financial and institutional capacity (Frege et al. 2023). As vulnerabilities increase across physical, infrastructural, social, economic, and institutional domains, the risks to human security intensify (H. B. Waseem and Rana 2023).

Climate disasters also drive migration by disrupting food security, reducing food availability, and driving up prices (H. B. Waseem and Rana 2023). This creates food crises, particularly in riverine areas, where food becomes scarce and unaffordable (H. B. Waseem and Rana 2023). Rural households, reliant on ecological systems for livelihoods, are particularly vulnerable. For example, riverbank erosion in Punjab and Sindh displaces landless communities, compelling them to migrate in search of economic opportunities (D. Anmad and Afzal 2021). Food insecurity is closely linked to migration, as households with limited or no farming land and few employment opportunities face increased pressures to relocate.

In Pakistan, many rural residents move toward cities seeking safety from violent conflict, improved livelihood opportunities, and access to services (D. Ahmad and Afzal 2021; Salik et al. 2020; Crisp, Morris, and Refstie 2012). More than 5 million Pakistanis were displaced by conflict (often terrorism or counter-terrorism operations) between 2008 and 2023, (IDMC 2023a). Urban areas—frequent destinations for those who are displaced from and agentically migrate from rural areas—may experience heightened human security risks if service delivery is not scaled to match increasing demand. For example, the arrival of Pashtuns in Karachi, fleeing violence in Khyber Pakhtunkhwa and Baluchistan, has triggered political resistance from Sindhi and Mohajir political constituencies due to perceived changes in the ethnic composition of host communities and competition for jobs and services (Makki et al. 2020; Crisp, Morris, and Refstie 2012). In diverse cities such as Karachi, ethno-political parties strategically exploit grievances, fueling sectarianism. Historical and ongoing displacement patterns, shaped by ethnic dynamics, significantly influence the trajectory of conflicts in Pakistan.

Not all households can successfully adapt in place amidst declining environmental conditions and may become immobile either by choice or necessity. Rural households that depend on agricultural production often lack the financial means or social capital to successfully adapt. While poverty is the most common driver of vulnerability, demographic marginalization can further restrict adaptive capacity; this is true for women, who face gender-based marginalization, the Hazara Shia community, who are persecuted for their religion, and Afghan refugees, who lack access to formal services and face the risk of deportation due to their nationality. Vulnerable households may become “trapped” in deteriorating social or ecological conditions or forced to return to insecure geographies after suffering a displacement event. It is often socially unacceptable for women to move without male family members, who themselves often migrate outward, sometimes seeking work after disasters like floods or droughts (Abbasi, Naeem, and Ansari 2021). This can trap women in precarious conditions. Afghan refugees, who have traditionally used crossborder and domestic movements, resource networks, and circular migration to cope with displacement, also face diminished mobility options due to heightened politicization over the past two decades (Mielke and Etzold 2022)

Pathway 3:

CLIMATE HAZARDS AND CLIMATE-RELATED DISPLACEMENT INFLAMING PRE-EXISTING CONFLICTS

In some cases, pre-existing conflicts can be exacerbated by the impacts of climate change and mobility flows. Climate change and variability can amplify the likelihood of displacement, particularly in protracted conflict areas characterized by deuterated human development, entrenched poverty, and political marginalization. Climate hazards may make it harder for households to shelter in place, rendering migration a more viable adaptation strategy than remaining in place. The negative effects of conflict and climate hazards may also compound to depress livelihood generation, pushing households to engage in economic migration. Ongoing conflicts can limit the ability of local and national governments to support climate adaptation efforts, equitably manage natural resources, respond to community conflicts, or support mobile populations through service or infrastructure provision. As a result, conflict zones provide fertile ground for extremist groups to address the unmet needs of local populations and exploit anti-state frustrations for violent or criminal activities. Consequently, even in post-conflict situations where tensions are present, but violence has subsided, climate hazards or large population movements may trigger its re-emergence, undermining stability, and resilience. Moderateto-severe drought conditions in southwestern Balochistan (Chagai, Noshki, Kharan, and Washuk district) during the summer months, paired with extreme cold and snow events in winter months, exacerbates environmental, food, economic, and health insecurities. This can, in turn, displace household to neighboring districts in Balochistan already grappling with terrorism and insurgencyfueled instability (Moin 2023). In destination areas, declining human security may lower the perceived opportunity costs for joining extremist groups, increasing the likelihood of violence. Similarly, following the 2010 floods, in central and southern Punjab, pre-existing religious extremism, ethnic violence, and crime increased as Jamaat-ud-Dawah (JuD) and Lashkar-i-Tayyeba (LeT) from Punjab recruited small riparian farmers whose land was damaged by flood waters (Saad, Mahsud, and Mian 2024).

#### Delhi, Karachi, or Islamabad collapse causes extinction.

Dr. Julian Cribb 19, Adjunct Professor of Science Communication at the University of Technology Sydney and Fellow of the Australian Academy of Technological Sciences and Engineering (ATSE), Principal of Julian Cribb & Associates, “6 - Food as an Existential Risk”, in Food or War, Cambridge University Press

Megacity failure is hard to predict, though it is not hard to identify those cities which are more at risk than others. However, the timing of a collapse depends on so many variables – politics, weather, resources, wars – that it is difficult accurately to predict the onset of particular urban crises. Suffice to say that even a single megacity collapse nevertheless represents a significant existential risk to humanity at large, as the failure of one of these gigantic metropolises, consisting of tens of millions of people, would set off domino consequences for the global economy and all its neighbours in the form of collapsed borders and floods of refugees. It follows that every city on the planet should be planning to avoid such a contingency – and if it isn’t, its city councillors should be fired.

From the perspective of food and war, megacity collapse is one of several probable outcomes of major failures in the global food system, the energy supply or any war which precipitated them. It is one for which few, if any, cities or their governments are prepared. The collapse of a major city or urban region would in turn send shockwaves through the entire global food system, causing prices in unaffected cities and regions to skyrocket and requiring the delivery of food aid on a hitherto unimagined scale and over a very short time-frame – mere days. Other existential outcomes such as disease pandemics and wars are likely. Food and conflict thus play into the risk of megacity collapse – and are also one of the unavoidable consequences. The solutions to this issue are dealt with in detail in Chapters 8 and 9.