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FOOD SYSTEMS IN CONFLICT AND PEACEBUILDING SETTINGS

Case Studies of Venezuela and Yemen

VONGAI MURUGANI, CAROLINE DELGADO, MARIE RIQUIER AND KRISTINA TSCHUNKERT

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PEACE RESEARCH INSTITUTE

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Abbreviations

CLAP	Committees of local supply and production
FAO	Food and Agriculture Organization of the UN
IDP	Internally displaced person
IPC	Integrated Food Security Phase Classification
NGO	Non-governmental organization
SLC	Saudi-led coalition
WFP	World Food Programme

Summary

Violent conflict is one of the main drivers of food insecurity worldwide because conflict disrupts food systems. Conversely, inequitable and unsustainable food systems can drive instability and conflict. Ending hunger—the target of Sustainable Development Goal 2—requires urgent action to make food systems more sustainable and resilient, and doing so can also support peace. However, a lack of context-specific understanding of the pathways between conflict and food security, which are often complex, has slowed the response to this urgent call.

This three-part policy paper series aims to emphasize the urgency of addressing the relationship between conflict and food insecurity, and to point out opportunities to do so. The first paper explored the pathways and interconnections between conflict and food systems. This second paper contextualizes those pathways and interconnections, using Venezuela and Yemen as case studies. The third paper will discuss opportunities and practical steps that can help to break the vicious cycle of hunger and conflict.

Case studies can help draw out contextually conditioned processes and untangle the complexities of food systems in conflict and peacebuilding settings. This paper, using Venezuela and Yemen as case studies, seeks to alert policymakers to the importance of understanding how these pathways and interconnections shape food security outcomes, and the potential of equitable and resilient food systems to contribute to peace. The two cases, while their conflict contexts differ, share many similarities. Oil was the primary source of government revenue in both countries and both countries have suffered from the economic effects of declining production. Food imports have fallen drastically due to military involvement and millions of food insecure Venezuelans and Yemenis have been displaced. The paper synthesizes existing research and evidence on Venezuela and Yemen and concludes with four recommendations.

Case study one—Venezuela

The first case discusses food insecurity in Venezuela. Successive Venezuelan governments, in particular during the Bolivarian Revolution, have used vast oil revenues to fund food security. During the oil price boom between 2010 and 2013, oil revenue funded several interventions, which delivered significant food security gains. However, these gains were eroded when oil prices began falling in 2013. The resulting economic collapse and political and humanitarian crisis have led to widespread food insecurity and caused over 5.6 million Venezuelans to emigrate since 2015. Food assistance has been politicized by the government and some international actors. The case study ends by considering the ways in which food systems in Venezuela can generate conditions conducive to peace.

Case study two—Yemen

The second case study, on Yemen, describes how the country is dependent on food imports, which were largely funded by oil revenue before the current conflict. A blockade of Yemen's naval and aerial space by Saudi Arabian-led coalition forces has contributed to a reduction in food imports, which, along with the systematic destruction of agricultural produce, has led to widespread food insecurity. Millions of Yemenis have also been displaced. Together with pre-existing fragilities, the resulting humanitarian crisis has left 54 per cent of the population dependent on food assistance. The case study ends by considering the role of food assistance in improving food security and livelihood outcomes.

Conclusions

This chapter identifies four key themes in the case studies—a shift from agriculture to oil, detrimental government policies, migration and displacement, and the politicization and weaponization of food—and discusses them in the context of the wider literature. First, a shift from agriculture to oil often weakens domestic food production as countries use oil revenue to import food. The resulting dependence on volatile oil income and food imports can threaten food security if oil prices fall, as happened in Venezuela and Yemen. Second, inefficient and ineffective government policies can worsen food insecurity and feed lucrative black markets, which are deeply intertwined with conflict. Third, migration and displacement in response to conflict creates significant demands on the food system of the receiving communities, potentially leading to food shortages and resource scarcity that can further drive conflict if the local market cannot cope. Finally, food has been politicized and weaponized differently in each case study but with the common purpose of controlling the population and forcing opposing groups into submission.

Recommendations

The paper ends with four recommendations for governments and their humanitarian and development partners. The recommendations build on the knowledge that, with a better understanding of the unique pathways between conflict and food systems, well-designed interventions can be developed to limit the long-term consequences of conflict and food insecurity, and the potential for food security to foster peace can be developed.

1. Donor governments, regional bodies and others should, in a much more concerted and systematic way than at present, put pressure on warring parties to cease the politicization and weaponization of food.

2. Governments in conflict-affected countries and their relevant public and private partners should invest in research and development to promote more sustainable and competitive ways of growing affordable and nutritious food.

3. Donor governments, aid agencies and governments in conflict-affected countries should expand the capacity of the food systems, and water, health and sanitation infrastructure in communities receiving and hosting refugees and internally displaced people (IDPs), and expand the capacity of IDPs and refugees to become self-reliant.

4. Governments and their donor partners should invest in research to generate knowledge on food and other critical commodities sold on black markets in conflict-affected communities so that they can design more effective responses.

1. Introduction

World hunger is among the most pressing issues of our time. In 2021, 161 million people were acutely food insecure—an increase of nearly 6 million from the year before. Nearly 30 million people were on the verge of starvation, meaning that they did not know where their next meal would come from. The majority of these people, almost 100 million, live in countries where violent conflict is the main driver of hunger. There is a two-way relationship between violent conflict and food security. On the one hand, conflict has a direct impact on food systems, affecting people's ability to produce, trade and access food. On the other, food insecurity can be a contributing factor to the emergence and duration of conflict. The pathways leading from conflict to increased food insecurity or from increased food insecurity to conflict are complex and unique to each case. However, when food systems are equitable and sustainable, they have the power to foster peace.[1]

For policymakers to facilitate building more equitable and resilient food systems—and thus to foster peace—they need to address the drivers of the relationship between conflict and food insecurity. However, the process of addressing those drivers is hampered by a limited understanding of how actors and processes in food systems are organized, and how the context shapes the unique ways in which these pathways develop.[2] A better understanding of how these pathways develop is useful for learning lessons that can be applied to peacebuilding in settings experiencing violent conflict and food insecurity.[3]

This paper, which is the second in a three-part series, sets out the pathways and interconnections between food systems, hunger, violent conflict and peace in Venezuela and Yemen to elucidate possible ways out of the countries' respective crises and to give a contextual understanding of the discussion in the first paper. The first paper in the series laid out the theoretical pathways and interconnections between conflict and food systems. This second paper contextualizes those pathways and interconnections, using Venezuela and Yemen as case studies. The third paper will discuss opportunities and practical steps that can help to break the vicious cycle of hunger and conflict.

Venezuela and Yemen are useful case studies because they represent two different conflict contexts with comparable economic, food security and humanitarian outcomes. Venezuela is not experiencing traditional armed conflict. Instead, intertwined state-perpetrated and criminal violence in the country combine to produce one of the highest homicide rates in the world. Venezuela is thus an example of violent conflict in which criminal, political and communal violence are the main drivers. In contrast, Yemen is experiencing a civil war. Violent conditions caused the food systems of these oil-producing and food import-dependent countries to contract, leading to food insecurity. Both countries have experienced a wide range of shocks to the food system. This paper focuses on the effects of violent conflict.

The framework developed in the first paper shows that conflict has a two-way relationship with food insecurity.[4] The first pathway shows how violent conflict

[1] Delgado, C., Murugani, V. and Tschunkert, K., *Food Systems in Conflict and Peacebuilding Settings: Pathways and Interconnections* (SIPRI: Stockholm, 2021); Martin-Shields, C. and Stojetz, W., 'Food security and conflict: Empirical challenges and future opportunities for research and policy making on food security and conflict', Food and Agriculture Organization of the United Nations (FAO), Agricultural Development Economics Working Paper 18-04, 2018; Helland, J. and Sørbø, G. M., 'Food securities and social conflict', Chr. Michelsen Institute Report, 2014.1; and Global Network Against Food Crises, 'Global report on food crises: Joint analysis for better decisions', Sep. 2021.

[2] Delgado, Murugani and Tschunkert (note 1); and Helland and Sørbø (note 1).

[3] Korf, B. and Bauer, E., 'Food security in the context of crisis and conflict: Beyond continuum thinking', International Institute for Environment and Development, 2002.

[4] Delgado, Murugani and Tschunkert (note 1).

drives food insecurity, and sometimes famine, by disrupting the processes and actors of food systems, particularly in the production, distribution and marketing elements. (In this paper, marketing means activities relating to the buying and selling of food at markets.) However, the effects will differ across conflict settings and over time. The resulting food insecurity drives and prolongs conflict, creating a self-reinforcing cycle. The second pathway shows how food insecurity can trigger social instability, which under certain circumstances can lead to violent conflict. Environmental stress, climate-induced food shortages, resource competition, and social and food price-related grievances are among the most common pathways through which food insecurity can trigger violence.

The paper begins with a case study of the Venezuelan food system and how it was affected by the policies of the Bolivarian Republic; oil income delivered significant food security gains which were subsequently eroded when oil prices fell. The second chapter explores the Yemeni food system and shows how the blockade of Yemen's naval space and the systematic destruction of the agriculture and food sectors led to widespread food insecurity. Both case studies demonstrate the complex relationships and linkages between conflict and food insecurity. In particular, the case of Venezuela demonstrates how food insecurity leads to conflict and the case of Yemen demonstrates how conflict leads to food insecurity. The final chapter presents a discussion of four key themes emerging from the case studies—a shift from agriculture to oil, detrimental government policies, migration and displacement, and the politicization and weaponization of food, including food aid—and discusses them in the context of literature on conflict and food systems. The paper ends with four recommendations that are targeted at governments and their humanitarian and development partners. With a better understanding of the unique pathways between conflict and food systems, well-designed interventions can be developed to limit the long-term consequences of conflict and food insecurity.

2. Venezuela

Venezuela is facing a devastating, complex humanitarian emergency. An estimated 32 per cent of the population are food insecure and in need of assistance (see figure 2.1).[5] Of those, approximately a third—8 per cent of the population—are severely food insecure, and two-thirds—24 per cent of the population—experience moderate food insecurity.[6] The hunger crisis is man-made: an outcome of decades of poor policy decisions, an over-reliance on oil revenues for government income and a more recent reactive decarbonization process. As of 2020, the Covid-19 pandemic has exacerbated the crisis further.

The hunger crisis is both worsened by and worsens violent conflict in Venezuela. Venezuela's homicide rate is among the highest globally, peaking at 63.3 per 100 000 in 2014 before declining to 36.7 in 2018.[7] A plethora of violent armed groups, exercising varying degrees of territorial control and including criminal groups, organized crime syndicates, state-supported militias such as the *colectivos,* Colombian guerrillas and neo-paramilitaries, drive violence in Venezuela. The border region with Colombia is one of the most violent borderlands worldwide due to turf wars among armed actors over lucrative trafficking routes for drugs, weapons, people and contraband, including food.[8] How the current and future governments manage the crisis, including how they transition the economy away from oil revenues while achieving long-term economic stability, will have significant implications for food systems and their interconnectedness with violent conflict.

A man-made food crisis with deep structural roots—A historical overview

Oil-driven development and agricultural decline

The discovery of oil reserves in 1922 caused fundamental political and economic shifts in Venezuela. While these shifts propelled development in many areas, they are also the underlying factors explaining the food crisis ravaging the country today. The country rapidly transitioned from an agricultural economy to one based primarily on oil exploitation. This change set in motion key interlinked processes that significantly affected food systems. Domestic agriculture lost its competitiveness as markets were flooded with cheaper imports.[9] Rural areas stagnated as the economic activities developed around the oil export sector were mainly conducted in urban areas.[10] The economic pull of cities and the decline of rural regions led to rapid urbanization, further weakening the agricultural sector.[11] Although various governments attempted to modernize the sector, domestic agriculture could not compete with cheaper food imports. By the end of 1998, Venezuela depended on food imports for more than 70 per cent of its food supply.[12]

[5] World Food Programme (WFP), 'Venezuela food security assessment: Main findings', 2019.

[6] World Food Programme (WFP) (note 5).

[7] United Nations Office on Drugs and Crime, 'Victims of intentional homicide, 1990–2018', [n.d.].

[8] García Pinzón, V. and Mantilla, J., 'Contested borders: Organized crime, governance, and bordering practices in Colombia-Venezuela borderlands', *Trends in Organized Crime*, no. 24, 2021.

[9] Wilpert, G., 'Land for people not for profit in Venezuela', 23 Aug. 2005, eds P. Rosset, R. Patel and M. Courville, *Promised Land: Competing Visions of Agrarian Reform* (Food First Books: Oakland, CA, 2006), p. 249.

[10] Food and Agriculture Organization of the United Nations (FAO) and Development Bank of Latin America (CAF), 'Venezuela: Nota de Análisis Sectorial: Agricultura y Desarrollo Rural' [Venezuela: Sector Analysis Note: Agriculture and Rural Development], [n.d.].

[11] It should be noted, however, that many of those who migrated from rural areas into cities remained in poverty as cities were unable to accommodate the rapid influx of migrants. Wilpert (note 9).

[12] Schiavoni, C. and Camacaro, W., 'The Venezuelan effort to build a new food and agriculture system', *Monthly Review*, vol. 61, no. 3 (Jul.–Aug. 2009), pp. 129–41.

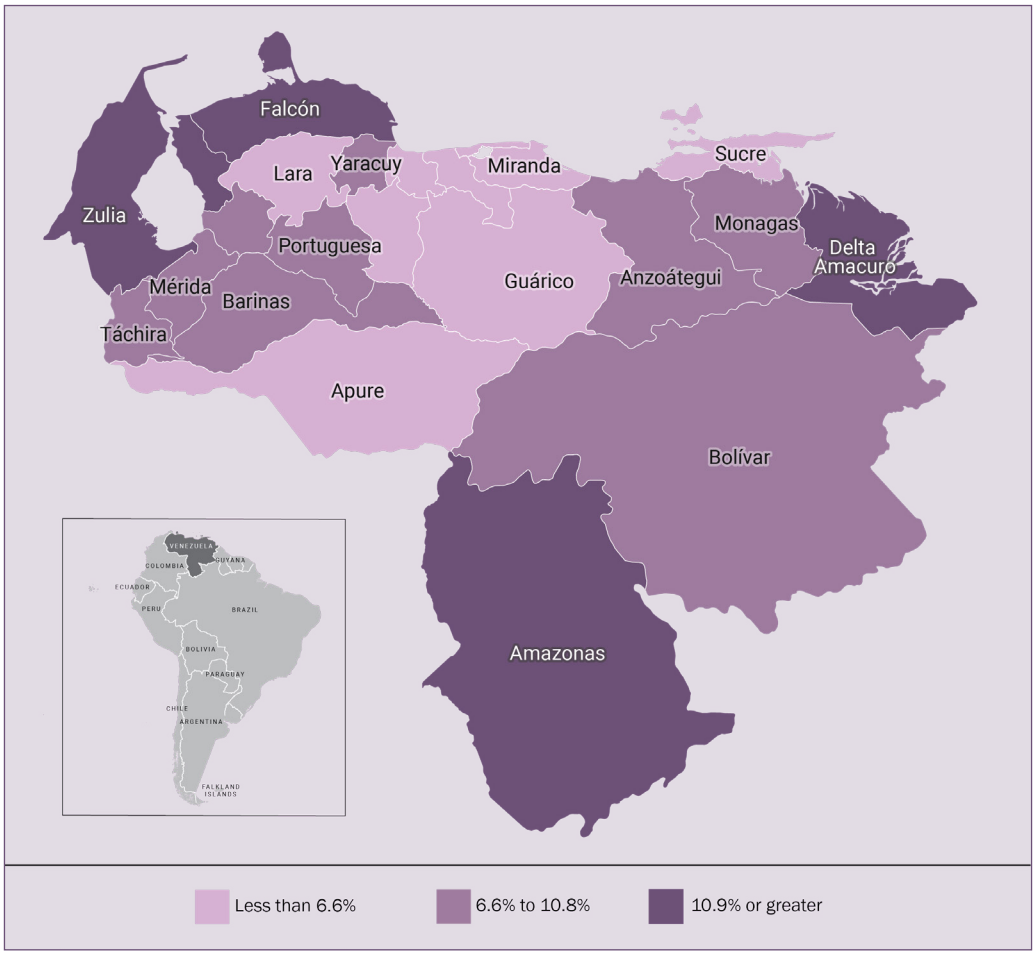

Figure 2.1. Map of Venezuela showing prevalence of food insecurity, July–September 2019

Source: World Food Programme (WFP), 'Venezuela food security assessment', 23 Feb. 2020.

The oil wealth did, however, initially improve food security in Venezuela. The government established wide-ranging social programmes to redistribute oil revenue.[13] These included programmes to improve the alimentary and nutritional status of the population and treat children suffering from severe malnutrition. Moreover, between 1945 and 1978 there was a 4 per cent annual growth in agricultural production, and this, coupled with food imports, largely ensured the food security of the population during this period.[14]

However, plummeting oil prices in the 1980s set in motion a period of instability, recession, increasing poverty, food insecurity and social exclusion.[15] As Venezuela incurred substantial foreign debts, the government launched a fiscal austerity package as part of a financial bailout by the International Monetary Fund. Subsidies and support programmes were eliminated, and state price interventions weakened.[16] By the end of the 1990s, around 50 per cent of the population lived in poverty, and almost 30 per cent were extremely poor. The deteriorating conditions sparked popular uprisings, which were violently suppressed by the military.[17]

[13] International Crisis Group, *Venezuela: Hugo Chávez's Revolution*, Latin America Report no. 19 (International Crisis Group: Brussels, 22 Feb. 2007).

[14] Hernandez, P. et al., 'Dismantling of institutionalization and state policies as guarantors of food security in Venezuela: Food safety implications', *Frontiers in Sustainable Food Systems*, 18 Feb. 2021, p. 5.

[15] Food and Agriculture Organization of the United Nations and Development Bank of Latin America (note 10).

[16] Food and Agriculture Organization of the United Nations and Development Bank of Latin America (note 10).

[17] Felicien, A., Schiavoni, C. and Romero, L., 'The politics of food in Venezuela', *Monthly Review*, vol. 70, no. 2 (June 2019), pp. 1–19.

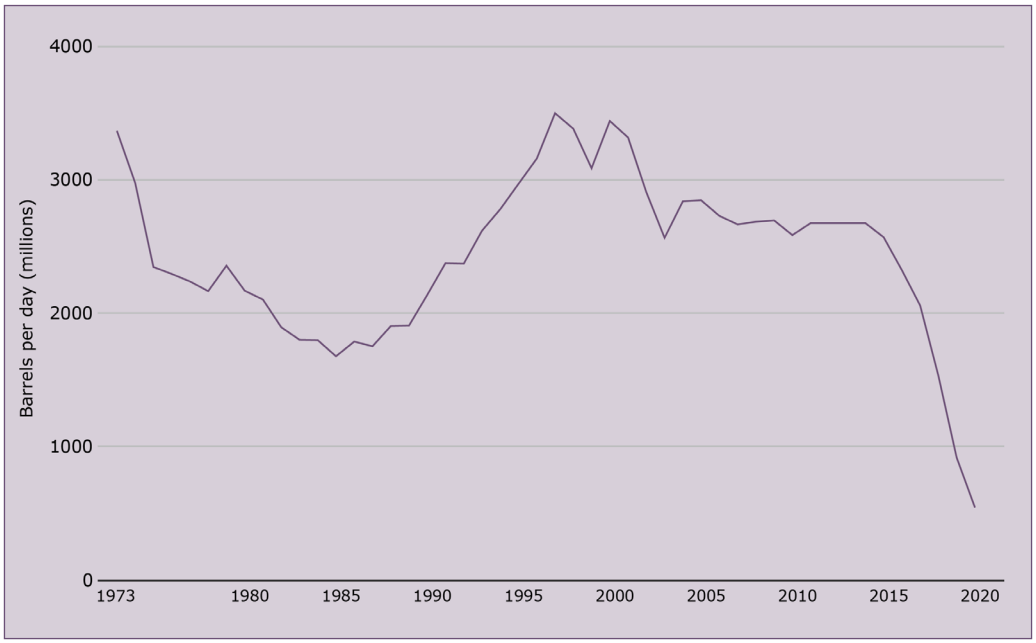

Figure 2.2. Annual crude oil, natural gas plant liquids and other liquids production, Venezuela, 1973–2020

Source: United States Energy Information Administration (EIA), 'EIA data sets', [n.d.].

The Bolivarian Revolution and escalating crisis

Against this background Hugo Chavez came to power in 1998, pledging to reduce poverty and inequality. The Chavez government spearheaded the Bolivarian Revolution, a political process that emphasized national food sovereignty and restoring the agricultural sector. The government incentivized people to return to rural areas and engage in agriculture, through comprehensive rural reform. With food considered a basic human right rather than a commodity for profit, the government expropriated much private land and nationalized private industries.[18] Cooperatively run farms and food-processing factories were established to return the means of production to the people. Social services were expanded throughout the country via Bolivarian missions. Food subsidies, price stabilization mechanisms and a government-run agricultural corporation that bought produce from farmers provided farmers with access to stable markets and assurance of adequate income.[19] The reforms and programmes were financed by the increasing oil wealth, as the price for oil reached a historic high in 2010. By 2007 poverty had been cut by half and extreme poverty by 70 per cent.[20]

These human development gains were quickly eroded as oil prices began to fall in 2013. The Venezuelan currency lost its strength, raising the cost of imported goods.[21] Falling oil prices and production levels, economic mismanagement and corruption, and international sanctions against Venezuela caused the gross domestic product to shrink by roughly two-thirds between 2014 and 2019 (see figure 2.2). By 2020, an estimated 96 per cent of Venezuelan households had an income below the poverty line, and 44 per cent of the population over 15 years of age were economically inactive.[22] Food imports declined by almost 70 per cent between 2016 and 2017, while domestic

[18] Pielago, B. S., 'Uncovering the 5 major causes of the food crisis in Venezuela', *Glocality*, vol. 3, no. 1 (2020).

[19] Schiavoni and Camacaro (note 12).

[20] Weisbrot, M., 'Poverty reduction in Venezuela: A reality-based view', *ReVista: Harvard Review of Latin America*, vol. 8, no. 1 (2008).

[21] Pielago (note 18).

[22] Food and Agriculture Organization of the United Nations (FAO), 'Bolivarian Republic of Venezuela: Agricultural livelihoods and food security in the context of Covid-19', Monitoring report, 2019.

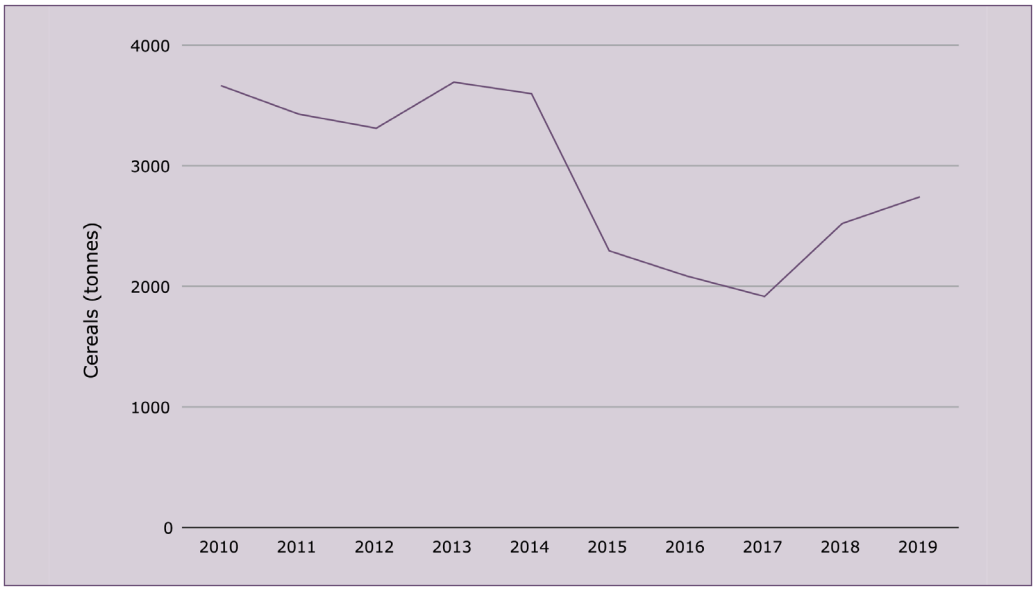

Figure 2.3. Total production of cereals in Venezuela, 2010–19

Source: Food and Agriculture Organization of the United Nations (FAO), FAOSTAT, accessed 23 Nov. 2021.

food prices soared as inflation reached an annual average of over 2700 per cent in May 2021.[23] With the average public-sector salary covering less than 1 per cent of the basic food basket, people became increasingly dependent on the state food distribution programme, run by committees of local supply and production (CLAP).[24]

There have been attempts to address the fall in agricultural production. The current government, under President Nicolás Maduro since 2013, has sought to reinforce urban agriculture—a policy originally introduced by Chavez in 2002—as a strategy to increase food supply, combat poverty, recover urban spaces and reduce environmental effects caused by agrochemicals. Urban agriculture has had some positive outcomes and continues to gain momentum against the impact of spiralling inflation and food shortages in shops. However, critics have pointed to the limitations of micro-solutions for solving national structural problems in production.[25] The health service and basic infrastructure are in a state of near collapse, which compounds the food crisis.[26]

Political opposition to the government and mass protest over the dire humanitarian situation have been met with increasing government repression. Political persecution is on the rise, manifested through social control, the repression of protest and selective extrajudicial executions.[27] As the crisis in Venezuela deepens, the military has been given control over key state institutions. As of 2019, nine out of the 32 government ministries were controlled by the military, including the Ministry of Agriculture.[28] The crisis has led to mass migration, with more than 5.6 million Venezuelans fleeing the country since 2015.[29]

[23] FocusEconomics, 'Inflation in Venezuela', [n.d.]; and Doocy, S. et al., 'The food security and nutrition crisis in Venezuela', *Social Science & Medicine*, vol. 226 (2019).

[24] United Nations Human Rights Office of the High Commissioner (OHCHR), 'Preliminary findings of the visit to the Bolivarian Republic of Venezuela by the Special Rapporteur on the negative impact of unilateral coercive measures on the enjoyment of human rights', 12 Feb. 2021.

[25] Dobson, P., 'Venezuela to expand small-scale urban agriculture', Venezuelanalysis.com, 19 Mar. 2018.

[26] International Crisis Group, *Imagining a Resolution of Venezuela's Crisis*, Latin America Report no. 79 (International Crisis Group: Brussels, 11 Mar. 2020).

[27] Galavís, N. G., 'Rule of law crisis, militarization of citizen security, and effects on human rights in Venezuela', *European Review of Latin American and Caribbean Studies/Revista Europea de Estudios Latinoamericanos y del Caribe*, no. 109 (2020), pp. 67–86.

[28] Tian, N. and Lopes da Silva, D., 'The crucial role of the military in the Venezuelan crisis', SIPRI Topical Backgrounder, 2 Apr. 2019.

[29] R4V, Coordination Platform for Refugees and Migrants from Venezuela, 'Venezuelan refugees and migrants in the region', Mar. 2021.

Box 2.1. Decarbonization and the Venezuelan Government's response

The collapse of the oil sector in Venezuela—falling from US$50 billion in export value in 2014 to $12 billion in 2019—has forced a process of transition. This has been labelled a process of reactive decarbonization.[a] Decarbonization refers to the process of reducing carbon dioxide emissions in the atmosphere that have resulted from human activity to mitigate the effects of climate change.

Decarbonization can be planned or reactive. Reactive decarbonization involves little planning so negative outcomes are neither prevented nor minimized.[b] Venezuela's climate change response focuses on adaptation rather than mitigation because it only produces 0.5 per cent of the world's carbon emissions. While many other countries have opted to decarbonize their energy sectors, 70 per cent of Venezuela's electricity is already generated using hydroelectric energy.[c] Nevertheless, while the country is not pursuing planned decarbonization, many of the countries that bought oil from Venezuela prior to the sector's collapse are.[d] This will likely lower demand for petroleum and gas in the coming decades.[e]

The rapid, deep and enduring shifts in the oil sector have already profoundly altered the economy, livelihoods, the relationship between the state and its citizens, and Venezuela's geopolitical standing. In response to the collapse of oil prices and decarbonization imperatives, the government is advancing an array of new extractive projects destructive to sensitive ecosystems.[f] These include opening over 10 per cent of national territory for mining.

[a] Kingsbury, D. V., 'Combined and uneven energy transitions: Reactive decarbonization in Cuba and Venezuela', *Journal of Political Ecology*, vol. 27, no. 1 (2020); and Observatory of Economic Complexity, 'Venezuela', [n.d.].

[b] Kingsbury (note a).

[c] Bolivarian Republic of Venezuela, 'Contribuciones Previstas Nacionalmente Determinadas de la República Bolivariana de Venezuela para la lucha contra el cambio climático y sus efectos' [First Nationally Determined Contribution of the Bolivarian Republic of Venezuela for the fight against climate change and its effects], July 2015.

[d] República Bolivariana de Venezuela (note c); Government of India, 'India's Intended Nationally Determined Contribution: Working towards climate justice', 2016; and People's Republic of China, 'Enhanced actions on climate change: China's Intended Nationally Determined Contributions', 2015.

[e] International Energy Agency, 'Net zero by 2050: A roadmap for the global energy sector', revised version July 2021.

[f] Kingsbury (note a); and Rosales, A., 'Venezuela's deepening logic of extraction', NACLA Report on the Americas, vol. 49, no. 2 (2017).

Pathways between food insecurity and violence in Venezuela

Using the framework developed in the first paper—which shows that conflict has a two-way relationship with food insecurity—this section looks in more detail at the way in which violent conflict, in combination with other factors, has disrupted Venezuela's food system. The focus is on the production, distribution and marketing elements of the country's food system. In the case of Venezuela, various factors, including falling oil prices, government policies and violent conflict, led to declining food production. This had a knock-on effect on distribution and marketing, leading to higher food insecurity. These disruptions to the food system and the resulting food insecurity have led to social unrest, social control and repression, which are among the drivers of violence in Venezuela.

Production, distribution and marketing

Food production in Venezuela fell by 60 per cent between 2014 and 2018 (see figure 2.3).[30] Factors contributing to this decline include falling oil prices, government policies and escalating levels of violence in rural areas. These developments are intrinsically linked to Venezuela's violent conflict.

The fall in oil prices and the resultant reactive decarbonization (see box 2.1) have had a profound effect on agricultural production. The import of crop seeds and agricultural supplies has declined, and fuel shortages have negatively affected cultivation and distribution. Government policies—including large property seizures of arable and cattle farms, and industrial facilities—radically reduced agricultural

[30] Bengoa Foundation, Venezuelan Health Observatory (OVS) and the Agri-Food Network of Venezuela, 'Complex humanitarian emergency in Venezuela: Right to food', National Report, Dec. 2018.

competitiveness, efficiency and quality, and led to a lack of confidence among private investors.[31] The nationalization of the agricultural supplies company, Agroislena (later renamed Agropatria), in 2010, which was accused of price speculation, brought down prices for items such as fertilizers, agrochemicals and seeds, but also created shortages, disrupted logistics and opened up opportunities for corruption.[32]

Furthermore, the fall in oil prices has meant armed groups have adopted new tactics to make up for a decline in income from oil. From common crime groups, *colectivos* and the security forces to Colombian guerrilla groups, the armed groups are increasingly targeting producers and distributors, as they adapt to declining oil revenues.[33] The resulting escalating levels of violence in rural areas since 2013 have caused agricultural production to fall between 10 and 20 per cent.[34] For example, in producing regions, such as Monagas, criminal groups that previously extorted oil companies and contractors are now targeting agricultural workers.[35] In Portuguesa—the breadbasket of Venezuela—armed groups have engaged in extortion of agribusiness. In coastal areas, fishermen are robbed of their products and equipment at sea and on land by armed groups, frequently operating in collusion with the coastguard and police.[36] As a consequence, fishing has declined by 70 per cent. In other regions, such as Guárico, armed groups seek to control key transport routes from production sites to markets.[37] Armed groups, including the state security forces, operate checkpoints, charging fees or confiscating all or part of the cargo. In areas such as Mérida, violence has caused the distribution and marketing of agricultural produce to drop by up to 60 per cent. There are also reports of violent *colectivos* running urban farms.[38] Consequently, producers spend 10 to 25 per cent of production costs on security.[39] Reduced volumes and rising costs of agricultural production and distribution mean consumers end up paying distorted prices for the final product, which partially drives up inflation levels in the country.[40]

The knock-on impact of the deteriorating security landscape in rural production areas on consumers has been a sharp increase in food insecurity. Declining domestic production combined with a fall in food imports has severely affected the distribution of food and its availability on the market. The food that is available has become unaffordable for many Venezuelans. Furthermore, corruption, lack of fuel and a crumbling infrastructure have reduced food quality and safety. In turn, rising food insecurity has made most households dependent on the government CLAP food subsidy distribution programme.[41]

[31] Purcell, T. F., 'The political economy of rentier capitalism and the limits to agrarian transformation in Venezuela', *Journal of Agrarian Change*, vol. 17, no. 2 (2016).

[32] Purcell (note 31).

[33] InSight Crime, 'Pirates of the lake: Gangs prey on Venezuelan fishermen', Brief, 10 Nov. 2020.

[34] Briceño-León, R., 'Impacto de la inseguridad y violencia en el sector agroalimentario en Venezuela' [Impact of insecurity and violence on the agri-food sector in Venezuela], Laboratorio de Ciencias Sociales, 1 Reporte de investigacion LACSO, 1 Mar. 2020.

[35] Observatorio Venezolano de Violencia, 'Informe annual de violencia 2020: Entre las pandemias de la violencia y del Covid-19' [Annual report on violence 2020: Between the pandemics of violence and Covid-19], 29 Dec. 2020.

[36] Briceño-León (note 34); and InSight Crime (note 33).

[37] Observatorio Venezolano de Violencia (note 35).

[38] InSight Crime, 'The devolution of state power: The "colectivos"', *Venezuela: A Mafia State?* (InSight Crime, 2018).

[39] Briceño-León (note 34).

[40] Briceño-León (note 34).

[41] Penfold, M. A., 'How to reconstruct Venezuela: Political conflict, weak state capacities, and social violence', Latin American Program, Wilson Centre, Working paper, Mar. 2021.

Food crisis feeding into violence

Food as social control

Food insecurity emerging from disruptions to the production, distribution and marketing elements of the food system in Venezuela feeds back into the mechanisms that could drive conflict, demonstrating one of the pathways between food insecurity and violent conflict. One way this occurs is when food is used as a tool for social control. In Venezuela, this is taking place in an increasingly authoritarian and violent context. Food insecurity has made more people dependent on CLAP distribution. The distribution of CLAP boxes is coordinated by communal boards and community organizations controlled by the government.[42] But armed groups, including the armed forces, government aligned militias and *colectivos*, as well as criminal gangs and Colombian guerrilla groups, often carry out the distribution.[43] The government has granted the CLAP vaguely defined powers of vigilance and organization to guarantee security and sovereignty, and there is mounting evidence that CLAP boxes are used to secure votes for the government.[44] Alongside establishing CLAP, the government also issued the homeland card (*carnet de la patria*), a national identification card purportedly intended to streamline aid distribution. This card holds information on individuals' use of public services and political affiliation.[45] The state allegedly uses the cards to distribute assistance based on loyalty to the ruling party and to track party affiliation during elections.[46] While individuals are not officially required to have a homeland card to receive CLAP boxes, it has become the de facto requirement in many places. Furthermore, when registering for CLAP, individuals need to state whether they belong to the ruling party.[47] Research suggests that CLAP boxes are distributed mainly to government supporters. A survey in 2017 targeting 4.4 million citizens found that over 80 per cent of government voters say that the boxes are their primary source of food, compared to only 14 per cent of independents. Linked to this, 73 per cent of government voters state that they have access to three meals a day, compared to only 54 per cent of independents.[48] Findings like these have led some analysts to argue that the way CLAP and the identity cards are used amounts to weaponizing hunger and using food as a political tool to manipulate and control the Venezuelan population.[49]

Thriving black markets and soaring incomes for armed groups

Another way in which rising food insecurity triggers risks of violent conflict is through the black market. The dwindling food supply and deepening economic crisis in Venezuela have generated a profitable black market for food, fuel and other agricultural inputs. CLAP boxes and food purchased or looted at the state-subsidized food markets are resold on the black market, usually controlled by the *colectivos* and other

[42] Hernandez et al. (note 14); Pielago (note 18); and Herrera-Cuenca, M., Landaeta Jimenez, M. and Sifontes, Y., 'Challenges in food security, nutritional, and social public policies for Venezuela: Rethinking the future', *Frontiers in Sustainable Food Systems*, no. 5, 28 Apr. 2021, p. 127.

[43] Dayton, R., 'Maduro's revolutionary guards: The rise of paramilitarism in Venezuela', *CTC Sentinel*, vol. 12, no. 7 (Aug. 2019); InSight Crime, 'Colombia's ELN reportedly distributing Venezuela government food on the border', 9 Feb. 2018; and Transparency Venezuela, 'Organised crime and corruption in Venezuela: A problem of state', June 2020.

[44] Pielago (note 18); and Human Rights Watch, 'Venezuela's humanitarian crisis: Severe medical and food shortages, inadequate and repressive government response', 2016.

[45] Penfold (note 41).

[46] United Nations Human Rights Council, 'Detailed findings of the independent international fact-fining mission on the Bolivarian Republic of Venezuela', A/HRC/45/CRP.11, 15 Sep. 2020.

[47] Human Rights Watch (note 44).

[48] Rendon, M., 'The Maduro diet: Food v. freedom in Venezuela', Center for Strategic & International Studies, 9 July 2018.

[49] Pielago (note 18); and Rendon (note 48).

armed groups exercising de facto control over many neighbourhoods.[50] The government plays a significant role in facilitating black markets. President Maduro has begun using the country's food supply as a source of patronage to replace falling oil revenues.[51] The government has granted the military control over the country's ports and the distribution of imported food, partly to ensure its support as Maduro's popularity falls.[52] This control gives military officers access to food and significant power and enrichment opportunities. Furthermore, by exploiting a complex currency system, military officials have been able to import food at an advantageous exchange rate and then sell it on the black market for hundreds of times the government-set price.[53] Changes to the official exchange rate and the partial dollarization of the economy have eroded this enrichment scheme.[54] Nevertheless, opportunities like these should not be underestimated in a country where the highest-paid member of the military earns less than US$50 per month.[55] By some estimates, trafficking in food is now more profitable and less risky than drug trafficking.[56]

While the availability of food on black markets provides a safety vault for Venezuelans who can afford it, profits from the black market strengthen the power of the armed groups who control them and drive violence in Venezuela. The border region with Colombia is particularly affected; it has become one of Latin America's most important and violent organized crime hubs.[57] Until recently, subsidized food items were smuggled from Venezuela to Colombia, where they are sold at much higher prices. With rising food insecurity in Venezuela, the groups adapted and began trafficking Colombian food items into Venezuela to be sold on the emerging lucrative black market for food.[58] This coincided with the closure of the border by Maduro following a dispute between the Colombian and Venezuelan governments. The border closure further boosted trafficking, paving the way for organized criminal groups and corrupt elements of the Venezuelan National Guard to strengthen their control of the unofficial crossings used by smugglers, and charge for allowing goods to cross. These routes are also used by Venezuelan migrants fleeing the crisis, who are charged trafficking or protection fees.[59] Consequently, the groups in control of the trafficking routes have seen their revenues soar because of the crisis in Venezuela.[60]

The Venezuelan crisis and the illegal economies combine to generate a pool of recruits for armed groups in Colombia and Venezuela. In Colombia, armed groups recruit Venezuelan migrants to strengthen their ranks.[61] While some recruitment is violent and forced, the groups also offer substantial incentives to migrants facing dire humanitarian conditions in Colombia and Venezuela.[62] Notably, while groups used to

[50] Transparency Venezuela, 'Dijeron que los colectivos entregarán las CLAP y le caerán a tiros al que hable mal del gobierno' [They said that the groups will hand over CLAP and they will shoot anyone who speaks ill of the government], 27 Feb. 2019; and InSight Crime, 'Shifting criminal dynamics signal violent future for Colombia–Venezuela border', 29 Jan. 2018.

[51] Tian and Lopes da Silva (note 28).

[52] Dreier, H. and Goodman, J., 'Venezuela military trafficking food as country goes hungry', Associated Press, 28 Dec. 2016.

[53] Tian and Lopes da Silva (note 28).

[54] Klapper, R., 'Venezuela changes currency as inflation skyrockets, price of dollar rises on black market', *Newsweek*, 1 Oct. 2021.

[55] InSight Crime (note 50).

[56] InSight Crime (note 38).

[57] InSight Crime (note 50).

[58] Ulmer, A. and Polanco, A., 'In switch, hungry Venezuelans now smuggle Colombian food home', Reuters, 8 June 2016.

[59] Delgado, C., *The World Food Programme's Contribution to Improving the Prospects for Peace in Colombia* (SIPRI: Stockholm, 2020).

[60] InSight Crime, 'Crime groups win in Colombia–Venezuela border closure', 16 June 2016.

[61] Delgado (note 59).

[62] Delgado (note 59).

offer luxury items as a means to recruit, they now offer food supplies.[63] The precarious situation of the migrants in Colombia, their fear of deportation and their survival needs, coupled with the threats many face back in Venezuela, make it easier for armed groups to recruit Venezuelan migrants than Colombians, which the non-state armed groups have been quick to exploit.[64]

Increasing protest and social unrest

Another mechanism through which food insecurity can feed the drivers of conflict is through protest and social unrest. Protests against the government increased in number and intensity between 2014 and 2019 as the political, social and economic crisis in Venezuela deepened.[65] Most of these protests were motivated by demands for economic and social rights, including access to food, basic services and social security, as well as by presumed electoral fraud.[66] The government responded with increasingly violent measures to contain protests, including the arbitrary detention, beating and killing of unarmed protesters.[67] Protests decreased with the onset of the Covid-19 pandemic, however, the state of emergency imposed by the government in response to the pandemic has been seen as a further pretext to repress dissent. Dozens of political opponents, civilians critical of the government's handling of the pandemic and lawyers who provide legal support to demonstrators protesting the lack of basic services have been arbitrarily detained and prosecuted.[68] Protesters risk direct violence and losing state-provided access to food, medicine, water and domestic gas.[69]

Food protests internationalized

Finally, protest and social unrest have become internationalized, as hunger has become a tool in wider contestations in the geopolitical arena. Food-related protests have become intertwined with international food aid, which is increasingly serving geopolitical objectives. The starkest example is the stand-off in 2019 between the Maduro-aligned security forces and pro-opposition supporters aligned with opposition leader and National Assembly leader, Juan Guaidó. The National Assembly sought to block Maduro from assuming the presidency after the presidential elections in 2018, which the opposition argued were fraudulent. Guaidó declared himself interim president and a string of government and military defections followed. In support of Guaidó, the United States government sent food and medical aid worth $60 million to the Colombian border to be distributed in Venezuela. Maduro's security forces blocked the aid from entering and violent clashes followed, claiming three lives and leaving several hundreds wounded.[70]

Maduro rejected the aid on the basis that it was merely a pretext for regime change by the USA and other countries that support Guaidó. Maduro's fear of aid being used to topple his regime was not unfounded. An audit of the US-backed aid effort concluded that it was not planned in alignment with humanitarian principles and that it sought

[63] Observatorio Venezolano de Violencia, 'Informe OVV de Violencia', Annual report 2017, 5 Jan. 2018.

[64] Murphy, H. and Acosta, L. J., 'Exclusive: Colombian armed groups recruiting desperate Venezuelans, army says', Reuters, 20 June 2019.

[65] United Nations Human Rights Council, 'Human rights in the Bolivarian Republic of Venezuela', Annual report of the United Nations High Commissioner for Human Rights and reports of the Office of the High Commissioner and the Secretary-General, A/HRC/41/18, 5 July 2019.

[66] Observatorio Venezolano de Conflictividad Social, 'Conflictividad social en Venezuela en 2020' [Social conflict in Venezuela in 2020], 25 Jan. 2021; and United Nations Human Rights Council (note 46).

[67] United Nations Human Rights Council, 'Venezuela: UN report urges accountability for crimes against humanity', 16 Sep. 2020.

[68] Human Rights Watch, 'Venezuela: Events of 2020', [n.d.].

[69] Dupraz-Dobias, P., 'Q&A: Venezuela's growing aid needs and continuing political restrictions', New Humanitarian, 4 Mar. 2020.

[70] Yi, Y, 'Tackling the hunger problem in Venezuela', Borgen Magazine, 19 June 2020.

to reinforce the interim government's credibility.[71] US officials and opposition leaders have explicitly stated that one of the goals of the aid delivery was to weaken Maduro by forcing the Venezuelan military to choose between blocking the aid caravan or disobeying the president.[72] The audit also found that the US Government reduced funding to United Nations agencies because the government believed that the agencies were sympathetic to Maduro's government.

Although the Maduro government has since softened its stance on foreign aid, the issue is strategically important for the government and the opposition. Maduro has labelled US sanctions against Venezuela an 'economic war', and the government only accepts humanitarian aid and allows UN agencies to operate inside the country as a means to confront this war. The government, however, maintains tight control over distribution as it fears that allowing large-scale assistance would weaken its political control. At the same time, being seen to block aid is detrimental to its image.[73] While aid, in particular from the USA, has been used to bolster the opposition, aid restrictions also serve the opposition; part of it believes that reducing the suffering would ease the pressure on the government.[74] Consequently, humanitarian access is highly constrained, and the government is increasingly harassing aid organizations.[75]

Food systems and the prospects for peaceful relations in Venezuela

The crisis in Venezuela shows no signs of easing.[76] Food insecurity is likely to keep rising, as is the number of migrants leaving Venezuela. However, there are ways in which food systems in Venezuela can generate conditions conducive to peaceful relations. In-depth research by SIPRI shows that it is possible to contribute to improving the prospects for peace through food security interventions even in the most unfavourable circumstances.[77] This is possible by leveraging efforts to build resilience, sustainable livelihoods and social cohesion.

One positive step is that the Venezuelan government now acknowledges the humanitarian crisis and is allowing humanitarian agencies to respond, albeit with restrictions. In 2021 the World Food Programme (WFP) was granted access to the country. The WFP's presence allows not only food insecurity to be addressed but also brings with it significant logistical capacity, something that has so far been lacking in the humanitarian response. In neighbouring Colombia, tentative findings show that WFP programming could have a stabilizing impact on the refugee crisis and the risk of non-state armed groups targeting Venezuelan migrants.[78] Therefore the WFP's presence in the country is a step towards improving food security while potentially also contributing towards the prospects for peaceful relations. Nevertheless, the impact will largely depend upon whether the WFP and other humanitarian organizations are allowed full and unhindered access throughout the country.

[71] Office of Inspector General, US Agency for International Development (USAID), 'Enhanced processes and implementer requirements are needed to address challenges and fraud risks in USAID's Venezuela response', Audit Report 9-000-21-005-P, 16 Apr. 2021.

[72] Parkin Daniels, J., 'Hungry Venezuelans urge help but standoff looms over "politicised" aid', *The Guardian*, 13 Feb. 2019.

[73] International Crisis Group, *Venezuela: What Lies Ahead after Election Clinches Maduro's Clean Sweep*, Latin America & Caribbean Report no. 85 (International Crisis Group: Brussels, 21 Dec. 2020); and Krygier, R. and O'Grady, S., 'In Venezuela, humanitarian aid has become a political weapon', *Washington Post*, 14 Feb. 2019.

[74] International Crisis Group (note 73).

[75] ACAPS, 'Venezuela: Complex crisis', [n.d.].

[76] Angelo, P., 'Top conflicts to watch in 2021: Economic, political and humanitarian catastrophe in Venezuela', Council on Foreign Relations, 22 Jan. 2021.

[77] Delgado, C. et al., *The World Food Programme's Contribution to Improving the Prospects for Peace* (SIPRI: Stockholm, 2019).

[78] Delgado (note 59).

Tackling the crisis means alleviating food insecurity in Venezuela and tackling violence and the wider economic and political crisis. This, in turn, depends on how the government continues to adapt to the fall in oil production and demand, given that Venezuela's oil wealth has dominated the economy and shaped the relationship between the state and its citizens. As shown, armed groups have been quick to adapt to and exploit changing dynamics. Therefore, any lasting solution to the crisis will require the government to curb the growing power of armed groups and their territorial and social control over a large part of the country's most vulnerable populations. There are few indications that the Maduro government is willing to do so. How the current and future governments reconstruct the country and diversify its economy will determine how the food system in Venezuela evolves and, with it, how the pathways between hunger and conflict, and food security and peace, evolve. Actors engaged in responding to the crisis must identify these pathways and integrate a food security lens in peacebuilding efforts and a peacebuilding lens in food security.

The Venezuelan case study traces the pathways between hunger and conflict by identifying that the structural roots of the current food crisis are in the parallel oil-driven development and agricultural decline starting in the first half of the 20th century. The hunger crisis is a result of poor policy, over-reliance on oil revenues and reactive decarbonization, and has been worsened by and worsens violent conflict in Venezuela. The case study draws out the impact of violent conflict on the production, distribution and marketing elements of food systems, identified in the first paper as being the parts of the food system most affected by violent conflict. The study then looks at how food insecurity can lead to social unrest and the weaponization of food, which in turn increases the risk of violence. Finally, it considers the challenges to confronting the food crisis as oil production in Venezuela falls and the world increasingly decarbonizes.

The Venezuelan case study shares many overarching similarities with the Yemen case study below. There are similarities in the ways through which violent conflict erodes food security, and how deteriorating food insecurity exacerbates violence. Four compounding factors that demonstrate the pathways emerge from the Venezuelan case study and can also be seen in the Yemen one: (*a*) a shift from agriculture to oil; (*b*) detrimental government policies; (*c*) migration and displacement; and (*d*) the politicization and weaponization of food. But there are also significant differences, highlighting the importance of contextual considerations for breaking the pathways between hunger and conflict and leveraging the potential of food systems to generate the conditions conducive to peace.

3. Yemen

The current conflict in Yemen has further weakened an already weak food system and has worsened food insecurity as the production, distribution and marketing elements of the food system have been systematically targeted, weakened and destroyed.[79] The parties to the conflict have weaponized starvation by taking advantage of Yemen's dependence on food imports, limited domestic agricultural production and poverty.[80] This has created one of the largest humanitarian crises in the world. Assessments for 2021 show that 16.2 million people out of a population of 30 million (54 per cent) are facing acute food insecurity (Integrated Food Security Phase Classification (IPC) phase 3, or above; see figure 3.1).[81] More than 4 million people, mainly women and children, have been displaced by the conflict and have settled in internally displaced person (IDP) camps and informal settlements.[82] The influx of IDPs into communities has put additional demands on the food system and on infrastructure providing basic services, such as water, energy and health care.[83] Although markets mostly function, most households cannot afford to buy food and rely on food assistance provided by international humanitarian actors.

There are similarities in Venezuela and Yemen between the pathways connecting rampant food insecurity and violence. These lie primarily in oil dependency and the decline of the domestic agricultural sector. Other common features are the impediments to importing basic food and non-food items to some locations and to some segments of the population, and that shortages are alleviated by the inexorable influence of black markets.

Despite similar dynamics at play, the Yemeni context differs from the Venezuela one in many aspects. Venezuela is facing political violence, whereas Yemen is experiencing an armed conflict preceded by decades of violence, which further eroded an unstable political and economic landscape. Furthermore, the Yemen case study illustrates the fragilities of the agricultural sector and the insufficient agricultural output of the country, which was already weak prior to the current crisis.

The Yemeni crisis—A historical overview

Oil and the Yemeni economy

Like in Venezuela, fundamental political and economic shifts took place in Yemen after the discovery of oil in the 1980s. Yemen transitioned from an economy based on subsistence agriculture and dependent on remittances from Yemeni workers abroad to a free-market economy, dominated by growing oil exports.[84] Remittances remain one of the main sources of foreign currency and stability in the Yemeni economy.[85] Yemen's oil output was lower than that of its neighbouring countries and Venezuela,

[79] Bachman, J. S., 'A "synchronised attack" on life: The Saudi-led coalition's "hidden and holistic" genocide in Yemen and the shared responsibility of the US and UK', *Third World Quarterly*, vol. 40, no. 2 (2019), pp. 298–316; and United Nations Security Council, 'Final report of the Panel of Experts on Yemen', S/2018/68.

[80] Ekström, J., 'Food as a weapon in Yemen: The targeting of food security in a new war', Lund University, Batchelor Degree thesis, 2020.

[81] The Integrated Phase Classification (IPC) is used to describe the severity of food emergencies and is based on a five-phase scale. Most Yemeni now are classified as being in Phase 3–5: Phase 3—Acute Food crisis, Phase 4—Emergency and Phase 5—Famine. Famine Early Warning Systems Network (FEWS NET), 'Integrated phase classification', [n.d.]; World Food Programme (WFP), 'Yemen situation report # 5', May 2021; and Integrated Food Security Phase Classification, 'Yemen: IPC food security and nutrition snapshot', 14 Apr. 2021.

[82] United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA), 'Yemen humanitarian response plan 2021', Mar. 2021; and World Bank, 'Population, total: Yemen, Rep.', [n.d.].

[83] International Organization for Migration (IOM), 'Displacement in Ma'rib: Flash update', 3–9 Mar. 2021.

[84] Perkins, B. M., 'Yemen: Between revolution and regression', *Studies in Conflict & Terrorism*, vol. 40, no. 4 (2017).

[85] ACAPS, 'Yemen: The impact of remittances on Yemen's economy', Thematic report, 15 Oct. 2021.

but petroleum (which includes crude oil, gas and refined oil) represented around 90 per cent of Yemen's exports, and crude oil alone around 65 per cent, in 2010.[86] Following a common pattern of oil-driven development, oil exports provided foreign currency reserves that financed the state's budget and development.[87] As a result, the national supply chain became organized around oil exports, which in turn financed the import of food, medicine, basic commodities and fuel. To enhance development, the state subsidized fuel for diesel-fuelled pumps to extract groundwater, which led to an increase in fuel consumption.[88] Yemen imported 60 per cent of its fuel before 2014 to meet this growing domestic fuel consumption and because it had low refining capacity.[89] As in Venezuela, this created vulnerability in the supply chain to shifts in global oil prices, affecting water, agricultural production and transport costs.[90] The increasing economic reliance on the oil sector has contributed to the transformation of the food system in Yemen.

Shifts in domestic food production, food imports and food security

Before outlining the pathways between the armed conflict and the food system, this section lays out the main features of Yemen's food system prior to 2014, when the current conflict dynamics erupted. Yemen's domestic agricultural sector, although small and subsistence oriented, was the main source of income for about 60 per cent of households.[91] Farmers used traditional irrigation systems to supplement rainfall, which is low outside of the southern uplands.[92] The shift to an oil-based economy described above introduced diesel-pumped groundwater, which made it possible for farmers to shift from drought-tolerant varieties like barley and sorghum to water-intensive crops, fruits, vegetables and qat, a mild narcotic increasingly cultivated since the 1970s.[93] Consequently, the agricultural sector now accounts for 90 per cent of water consumption, and qat production consumes 37 per cent of the water used in irrigation in Yemen.[94]

The fishing sector played an important role in Yemen's economy and food security and employed over 500 000 individuals in coastal areas.[95] However, most fishing communities were poor because they practised mostly small-scale and subsistence fishing and had little control of the value chain.[96] The damages caused by the armed conflict have further impaired the fishing sector (see below).

There was a food deficit in the 1990s caused by insufficient domestic food production and demographic pressures, which contributed to increased import depend-

[86] Observatory of Economic Complexity (OEC), 'Yemen: Historical data, yearly exports, year 2010', [n.d.].

[87] Choueiri, N. et al., 'External environment: Politics, oil, and debt', Choueiri et al. *Yemen in the 1990s: From Unification to Economic Reform* (International Monetary Fund: Washington, DC, 2002).

[88] Al-Saidi, M., Roach, E. L. and Al-Saeedi, B. A. H., 'Conflict resilience of water and energy supply infrastructure: Insights from Yemen', *Water*, vol. 12, no. 11 (2020).

[89] Yemen Ministry of Planning & International Cooperation, 'Oil sector recovery in Yemen urgently needed', Yemen Socio-economic Update, no. 14, May 2016.

[90] Sowers, J. and Weinthal, E., 'Humanitarian challenges and the targeting of civilian infrastructure in the Yemen war', *International Affairs*, vol. 97, no. 1 (2021); and Famine Early Warning Systems Network (FEWS NET), 'Rising fuel prices reduce profits from crop sales, while conflict intensifies in Ma'rib', Food Security Outlook, Feb. 2021.

[91] Baig, M. B. et al., 'Realizing food security through sustainable agriculture in the Republic of Yemen: Implications for rural extension', eds M. Behnassi, O. Pollmann and H. Gupta, *Climate Change, Food Security and Natural Resource Management* (Springer: Cham, 2019); and Alles, L., 'Missiles and food: Yemen's man-made food security crisis', Oxfam International, 2017.

[92] Lichtenthaeler, G., 'Water conflict and cooperation in Yemen', *Middle East Report*, no. 254, spring 2010, pp. 30–35.

[93] Weiss, M. I., 'A perfect storm: The causes and consequences of severe water scarcity, institutional breakdown and conflict in Yemen', *Water International*, vol. 40, no. 2 (2015), pp. 251–72.

[94] Qat production has also replaced other commercial crops like coffee in some locations, which undermines traditional food production. Baig et al. (note 91); and Lichtenthaeler (note 92).

[95] Al-Fareh A. M., 'The impact of the war in Yemen on artisanal fishing of the Red Sea', LSE Middle East Centre Report, 2018.

[96] United States Agency for International Development (USAID), 'The fisheries sector in Yemen: Status and opportunities', Draft report, Nov. 2019.

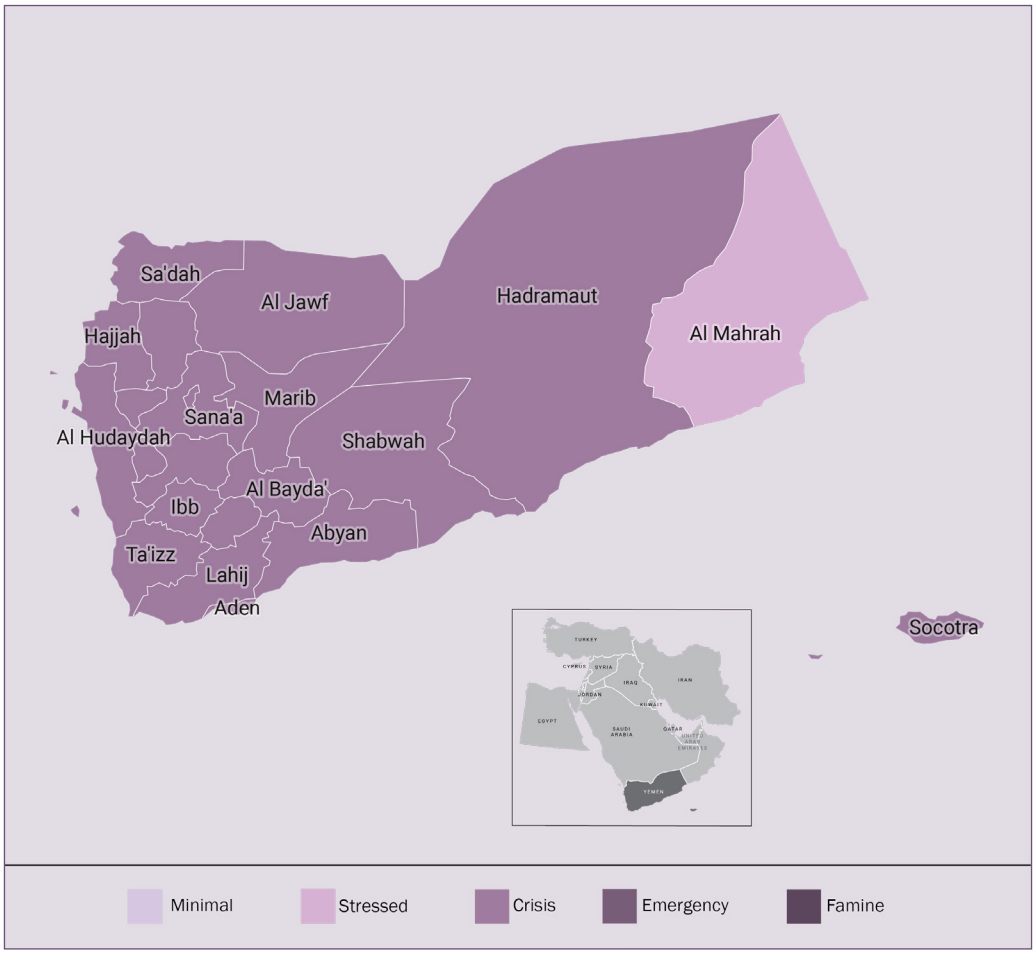

Figure 3.1. Map of Yemen showing food security outcomes by Integrated Food Security Phase Classification Acute Food Insecurity Phase, June 2021

Source: Famine Early Warning Systems Network (FEWS NET), 'Integrated phase classification', [n.d.]

ency. As argued to be the case in the Venezuelan case study, cheaper imports gradually supplanted domestic agriculture in Yemen, undermining the competitiveness of the sector. Furthermore, as the imports of subsidized food items grew significantly, domestic wheat production became too expensive. In contrast to Venezuela's agricultural productivity, less than 10 per cent of the cereals consumed in Yemen were locally produced. To supplement domestic production, Yemen imported 90 per cent of its wheat and all of its rice requirements in the decades preceding the conflict.[97]

There were two main consequences of the shift to import dependence to supplement failing agricultural production. Firstly, the main seaports of Aden, Hodeidah, Mukalla and Saleef became critical to food security as most imported food was transported by ship to Yemen, with 80 per cent of all imports coming through Hodeidah and Saleef ports alone.[98] Secondly, Yemen's food system became increasingly vulnerable to global market fluctuations in oil prices since the food imports were funded by oil income, which provided foreign currency reserves. Oil price increases affected the foreign currency reserves used to finance imports, which in turn affected the local markets supplying most of the population's daily food requirements and weakened food access.[99]

[97] Oxfam (note 91); and Salisbury, P., 'Yemen's economy: Oil, imports and elites', Middle East and North Africa Programme Paper MENA PP 2011/02, Chatham House, 2011.
[98] Ekström (note 80).
[99] Oxfam (note 91).

Factors behind the conflict in Yemen

The onset of the civil war in 2014 is intrinsically linked to unresolved conflicts and historical divides that characterize Yemen's domestic political, social and cultural landscape, combined with socio-economic grievances and a political crisis.[100]

Yemen has experienced several armed conflicts in the last few decades, and differs in this way from Venezuela, which experiences ongoing political violence. The unification of the Yemen Arab Republic (North Yemen) and the People's Democratic Republic of Yemen (South Yemen) established the Republic of Yemen in 1990. Ali Abdallah Saleh ruled North Yemen from 1978 until he became president of a unified Yemen in 1990. A robust north–south divide persisted and culminated in the 1994 civil war between the pro-union north and secessionist south.[101] This tension remained unsolved and in 2007 prompted the rise of secessionists advocating for a return to pre-1990 borders. In parallel, the Houthis—a Zaidi Shi'a movement created by Hussein al-Houthi—emerged in northern Yemen in the late 1980s. The leader of the movement died in 2004, which also saw the beginning of six distinct rounds of war between the Houthis and Saleh's government, lasting until 2010. Fighting resumed between the government and the Houthis episodically after 2010 until the full-scale civil war erupted in 2014. Primarily political, the Houthi movement was a response to perceived political and economic marginalization, and Western and Sunni influence, specifically Wahhabi from Saudi Arabia.[102]

As part of the Arab Spring, pre-existing tensions culminated in a popular uprising in 2011, which a subsequent political transition failed to address. A drop in global oil prices in 2008–2009 had led to rising food and commodity prices, weakening people's purchasing power.[103] Protests in 2011 called for the president to step down as well as for political and economic reforms.[104] Saleh's vice president, Abdrabbuh Mansur Hadi, was elected president in 2012. However, the political transition ended in elite bargain rather than regime change and thus addressed neither socio-economic grievances nor the political crisis.[105] Dissatisfaction continued to grow and a collapse in global oil prices in 2013–14 further weakened the economy, causing higher levels of food insecurity.[106] Challenges also arose from deliberate damage to the oil and gas infrastructure, which deepened the economic crisis and affected downstream users and production.[107] By exacerbating food insecurity, the economic decline fed pre-existing social discontent, which illustrates the linkage between food security and national security. As a result, 15 million Yemenis needed humanitarian assistance before the civil war.[108]

[100] This section is an overview of the factors and actors most relevant to the scope of the paper and does not constitute an exhaustive conflict analysis. The civil war is linked to previous conflicts and can therefore be seen as their continuation and not as a single conflict. Kendall, E., 'Making sense of the Yemen war', Engelsberg Ideas, 7 July 2020.

[101] Kendall (note 100).

[102] International Crisis Group, *The Huthis: From Saada to Sanaa*, Middle East & North Africa Report no. 154 (International Crisis Group: Brussels, June 2014).

[103] 'Crude oil prices, 1999', BP Statistical Review of World Energy, published online at OurWorldInData.org; and Gaghman, A., '2008 global financial recession impact on Yemen's economy and oil industry', Technium Social Sciences Journal, *Technium Social Sciences Journal*, vol. 5, no. 1 (2020), pp. 46–60.

[104] Parveen, A., 'The Yemen conflict: Domestic and regional dynamics', ed. S. Singh, *West Asia in Transition*, vol. II (Pentagon Press: New Delhi, 2019), pp. 130–148.

[105] International Crisis Group, *Rethinking Peace in Yemen*, Middle East & North Africa Report no. 216 (International Crisis Group: Brussels, July 2020).

[106] Anderson, Chad, 'Yemen in crisis: How Yemen can survive the fuel crisis and secure its future', Oxfam Briefing Note, June 2014; and Salisbury (note 97).

[107] Despite widespread allegations, the responsibility for these attacks remains uncertain.

[108] Vuylsteke, S., 'When aid goes awry: How the international humanitarian response is failing Yemen', Sana'a Center for Strategic Studies, 27 Oct. 2021.

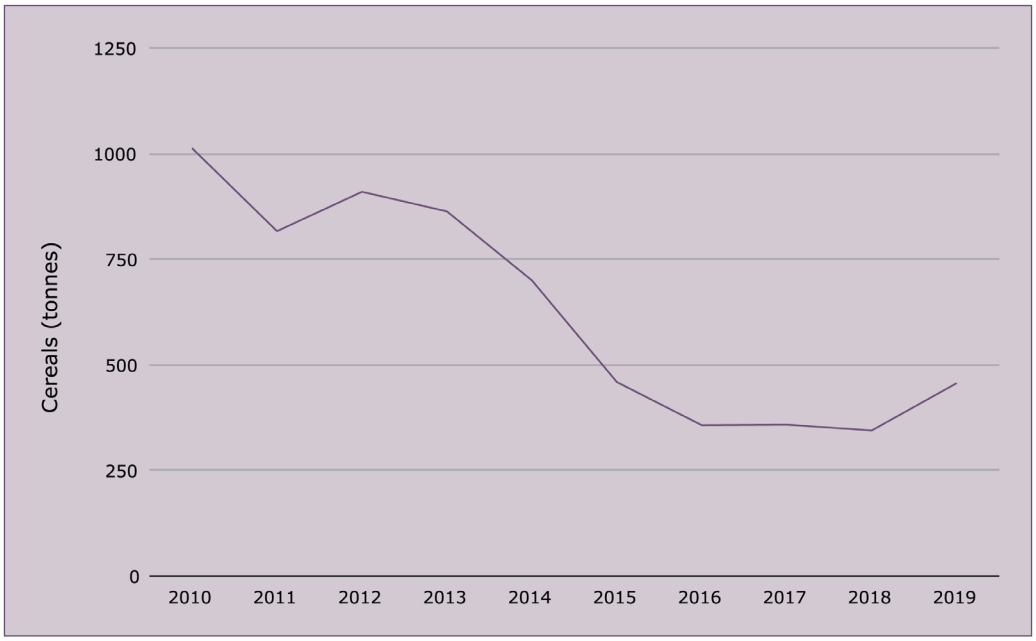

Figure 3.2. Total production of cereals in Yemen, 2010–19

Source: Food and Agriculture Organization of the United Nations, FAOSTAT, accessed 23 Nov. 2021.

The Houthi forces and Hadi's government, backed by the Saudi-led coalition (SLC), have been the main warring parties in Yemen's civil war since March 2015.[109] Tensions escalated when the Houthis seized the state capital in 2014 and overthrew Hadi. The government then relocated to Aden, which prompted Saudi Arabia's military intervention, supervised by the SLC, by request of the Yemeni government in March 2015. A broad range of actors with different, sometimes diverging, agendas allied with Hadi's forces against the Houthis, including the southern secessionist movement, backed by the United Arab Emirates, which is also a member of the coalition. The Houthis formed an opportunistic and pragmatic alliance with their former foe Saleh, until his assassination in 2017.[110]

The course of the civil war

One of the major consequences of the civil war on food security was episodic blockades of all air-, sea- and land ports, leading to food shortages. As the Houthis consolidated territorial control outside their native stronghold, the SLC's strategy was to resort to airstrikes and blockades to regain control over Houthi-held areas in southern Yemen and the Red Sea coast. The blockades targeted primarily the seaports that grant the Houthis access to the coastal trade and the supply chain. Control of Hodeidah and the western coastal area has turned highly strategic and contentious since the port, held by the Houthis, is the main entry point for fuel and food imports, to this day. The transport restrictions were imposed to weaken Houthi-controlled areas and block the influx of weapons.[111] The closure culminated—in response to an attack by the Houthis on Saudi Arabia's main airport—in a shutdown of all air-, sea- and land ports in November 2017. The ports of Aden and Mukalla outside of Houthi-controlled territory reopened within ten days, but the Hodeidah and Saleef ports remained closed

[109] A broader array of domestic, regional and international conflict parties is involved in the conflict such as the tribal forces, western powers including France, the United Kingdom and the USA. Salafi militants and al-Qaeda are also active in Yemen. Alterman, J. and Salisbury, P., 'Yemen's civil war', Center for Strategic & International Studies, Podcast, 27 July 2021.

[110] International Crisis Group (note 102).

[111] Council on Foreign Relations, 'War in Yemen', Global Conflict Tracker, updated Nov. 2021.

for three weeks. This disrupted the delivery of commercial fuel and humanitarian assistance, which was diverted towards Aden and Mukalla.[112]

Negotiations for a ceasefire remain inconclusive as the conflict escalated again in 2020 and fighting has spread in 2021 in Marib's resource-rich governorate, the last major urban stronghold of the Yemeni government.[113] With the population caught in the crossfire, the dire humanitarian situation has worsened with over 5 million people on the brink of famine.[114]

Pathways between food insecurity and violence in Yemen

As with the case study of Venezuela, this section uses the framework developed in the first paper to look in more detail at the way in which violent conflict, in combination with other factors, has disrupted Yemen's food systems. The focus is on the production, distribution and marketing elements of the food system. In the case of Yemen, various factors, including falling oil prices and a shift to an oil-dependent economy, in combination with the direct effects of violent conflict, have destroyed food production and reduced the volume of food imports.

Production, distribution and marketing

The current conflict has led to a further decrease in agricultural production in Yemen (see figure 3.2) and, as a result, has further heightened Yemen's dependence on imported food. The agricultural sector has lost billions of US dollars through damages to infrastructure and losses from reduced production and services in the supply chain.[115] Nationwide, infrastructure essential for food production, water and sanitation has been destroyed by all parties involved in the conflict through intentional air strikes and collateral damage as frontlines encroached on communities.[116] The Ministry of Agriculture and Irrigation has been keeping a record of intentional attacks on farms, including on produce and infrastructure, dams, food and seed banks, and its own buildings, which have been taking place since 2015.[117] Agricultural communities that produced food (cereals, meat, fish, fruit and vegetables) and cash crops are among the worst affected.[118] Similar attacks on fishing communities along the Arabian and Red seas targeting port infrastructure, boats and fishing grounds have destroyed the fishing sector.[119]

Without this infrastructure, crop and livestock farmers and fishermen cannot produce on the same scale as before violence escalated in 2014. For instance, a 2017 study in the Tihamah area showed that the conflict had halved the yields of most crops.[120] The conflict has forced some crop and livestock farmers and fishermen to stop working. Food production is likely to remain on a small scale with low yields in the long term if the infrastructure for food production is not replaced or repaired. There are some

[112] Sowers and Weinthal (note 90); and Ekström (note 80).

[113] Center for Strategic & International Studies (note 109).

[114] The depth of food insecurity and famine are cast into doubt, based on the type of data collected according to the Sanaa Center's report. Vuylsteke (note 108); and Symington A. and Khorsandi P., 'Yemen: Famine around the corner, says World Food Programme', World Food Programme (WFP), Mar. 2021.

[115] Coppi, G., 'The humanitarian crisis in Yemen: Beyond the man-made disaster', International Peace Institute, 2018.

[116] Sowers and Weinthal (note 90); and Ekström (note 80).

[117] Sowers and Weinthal (note 90); Ekström (note 80); Coppi (note 115); and Ministry of Agriculture and Irrigation, 'Two years of systematic targeting of the agricultural sector in the circle of aggression', 2017.

[118] Darbyshire E., 'Report: Yemen's agriculture in distress', Conflict and Environment Observatory, Oct. 2020; and Darbyshire E., 'Yemen's agriculture in distress: A case study of wadis Zabid and Rima, the Tihamah', Conflict and Environment Observatory, Oct. 2020.

[119] Sowers and Weinthal (note 90); and Al-Fareh, A. M., 'The impact of war in Yemen on artisanal fishing in the Red Sea', LSE Middle East Centre Report, Dec. 2018.

[120] Darbyshire, 'Yemen's agriculture in distress: A case study of wadis Zabid and Rima, the Tihamah' (note 118).

signs of reconstruction despite the ongoing conflict. Recent satellite images of Yemen show that solar panels, needed to extract groundwater for irrigation, and other agricultural structures have been installed. But it is not clear if they were installed by the government, the Houthis or private individuals, or if they are meant for food or qat production.[121]

Another impact on production is that agricultural inputs have become increasingly scarce and expensive as the sector is dependent on imports. The resulting fall in the use of certified seeds, fertilizer and pesticides has caused significant crop losses.[122] Producers have resorted to using smuggled and locally manufactured chemical alternatives, which are not approved for agricultural use or for human consumption.[123] The residual chemicals in these non-food grade inputs compromise both food quality and safety.[124]

While food production has declined because of the destruction of agricultural infrastructure, qat production has increased considerably since the beginning of the civil war in 2014.[125] Qat is legal and is widely consumed in Yemen and the value chain, including its distribution and marketing, is worth $12 billion a year, which gives it a ready market.[126] Growing demand and lucrative prices have made it attractive for food producers to switch to qat production. Moreover, one in seven Yemenis is employed in the qat value chain.[127] However, its production fuels conflict. Qat producers pay taxes or bribes to Houthi leaders in exchange for protection and access to diesel for irrigation.[128] In addition, free qat is used to recruit young Yemeni men into Houthi armies.[129] Beyond its use in fuelling conflict, qat addiction reduces the economic productivity of consumers and accounts for 28 per cent of the expenses in low-income households.[130] Yemen had developed a policy to control and regulate qat production, however, its implementation was disrupted by the conflict. [131]

The conflict and decreasing import volumes

Yemen has become increasingly dependent on food imports, but the blockade of its naval space has led to a significant decrease in the volume of food and fuel imports since 2014.[132] Delays at ports and the weakening riyal have also played a major role in this decrease. The delays, caused by the rigorous and mandatory inspections for ships to dock at Houthi-controlled ports, have been compounded by the destruction of port infrastructure, which extends the time to offload cargo.[133] As a result, the route is considered too costly and unattractive by most suppliers and freighters.[134] The route is now serviced by ships delivering mostly humanitarian supplies and a few commercial

[121] Darbyshire, 'Yemen's agriculture in distress: A case study of wadis Zabid and Rima, the Tihamah' (note 118).

[122] Darbyshire, 'Report: Yemen's agriculture in distress' (note 118); and ReliefWeb, 'Planting food security for Yemeni farmers', News and press release, 20 Mar. 2018.

[123] Darbyshire, 'Report: Yemen's agriculture in distress' (note 118).

[124] Famine Early Warning Systems Network (FEWS NET) (note 90); and Darbyshire, 'Report: Yemen's agriculture in distress' (note 118).

[125] Coppi (note 115).

[126] Alsanoy, A. A. and Alhakimi, S. S., 'Forecasting the cultivated areas of qat crop to 2030 and its impact on food security in the Republic of Yemen using ARIMA model', *Journal of Agricultural, Environmental and Veterinary Sciences*, Vol. 5, no. 1 (2021).

[127] Baig et al. (note 91).

[128] It is likely that food producers pay taxes and bribes as well, but there is little documentation to support this. Literature focuses on qat because of its adverse social and food security effects.

[129] Darbyshire, 'Report: Yemen's agriculture in distress' (note 118); Ekström (note 80); and Baig et al. (note 91).

[130] Baig et al. (note 91).

[131] Coppi (note 115).

[132] Baig et al. (note 91); and Sowers and Weinthal (note 90).

[133] The arms embargo was announced in UN Security Council Resolution 2216 (2015). UN Security Council Resolution 2216, 14 Apr. 2015.

[134] UN Security Council Resolution 2216 (note 133).

supplies. Ten additional days of quarantine were introduced to contain the spread of the Covid-19 pandemic and have led to a further decrease in imports.[135]

In addition, the fuel supply chain has become a battleground as warring parties disrupt the inflows and domestic distribution of fuel, resulting in local shortages and price hikes. The lengthy and complicated clearance process for ships carrying oil and gas is partly to blame for fuel shortages in Yemen. In 2021 coalition warships prevented some ships carrying oil and gas with the necessary clearance from entering Yemeni waters, forcing them to wait for months before docking.[136] Most of Yemen's fuel is delivered to Hodeidah port, which is controlled by the Houthis, who use this to their advantage. A recent revenue dispute between the Houthis and the government resulted in the Houthis blocking fuel imports to Hodeidah, which also caused fuel shortages.[137] The resulting shortages have caused fuel prices to double or triple, leading to increased prices in the transport, water and food sectors.[138] The Houthis, who control the very lucrative black market for oil, benefit from these price spikes.[139]

Another impact of the conflict on imports is that the conflict environment has changed markets and how they function. This has made market arrangements that support food and fuel imports redundant. The riyal has weakened, making imports expensive and causing the volume of imports to fall. The riyal's depreciation against major currencies is partly due to the depletion of Yemen's foreign currency reserves, as the blockade stopped external development assistance, oil and agricultural exports.[140] Importers have resorted to buying foreign currency on the black market, where demand outstrips supply, to make international payments.[141] As a result, businesses cannot import food at pre-crisis volumes, making business less profitable than it was before the civil war.[142] To increase the volume of food imports and lower food prices, authorities in Aden and Sana'a control regional exchange rates and offer foreign currency to importers at preferential rates.[143] However, this initiative has only been partially successful. There is food at markets, but it is too expensive for most households.

Internal distribution and marketing challenges

The conflict has made it more difficult to distribute food and supply it to market in Yemen. It has become harder and less profitable to distribute goods between communities because of insecurity, the destruction of the transport and road network, and parallel payment and pricing systems, which have developed in Aden and Sana'a.[144] These barriers have made some communities extremely difficult to reach. In addition, the time spent avoiding blocked routes and frontlines increases the distance

[135] Blay-Palmer, A. et al., 'City region food systems: Building resilience to Covid-19 and other shocks', Sustainability, vol. 13, no. 3 (2021), p.1325; Hashim, H. T. et al., 'Yemen's triple emergency: Food crisis amid a civil war and COVID-19 pandemic', Public Health in Practice, vol. 2, Nov. 2021; and World Bank, 'Yemen's economic update—April 2021', Apr. 2021.

[136] 'Saudi-led coalition clears four fuel ships to dock at Yemen's Hodeidah port: Sources', Reuters, 24 Mar. 2021.

[137] United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA), 'Briefing to the Security Council on the humanitarian situation in Yemen', New York, 16 Mar. 2021.

[138] Sowers and Weinthal (note 90); and United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA) (note 137).

[139] Elayah, M. and Fenttiman, M., 'Humanitarian aid and war economies: The case of Yemen', Economics of Peace and Security Journal, vol. 16, no. 1 (Apr. 2021).

[140] ACAPS, 'Volatility of the Yemeni Rial', Thematic report, Jan. 2020.

[141] Huddleston, R. J. and Wood, D., 'Functional markets in Yemen's war economy', *Journal of Illicit Economies and Development*, vol. 2, no. 2 (2021); and World Bank, *Securing Imports of Essential Food Commodities to Yemen: An Assessment of Constraints and Options for Intervention* (World Bank, Washington, DC, 2018).

[142] World Bank (note 135).

[143] World Bank (note 135); and Famine Early Warning Systems Network (FEWS NET) (note 90).

[144] Sowers and Weinthal (note 90); World Bank (note 135); Djita, R. and Hill, A., 'World policy analysis: Food insecurity in Yemen and Burundi', *Iris Journal of Scholarship*, vol. 1 (2019); ACAPS, 'Yemen: Drivers of food insecurity—45 districts with pockets of population facing IPC 5 (Catastrophe)', Apr. 2019; and Blay-Palmer et al. (note 135).

distributors travel, and makes deliveries expensive.[145] Food distributors, including humanitarian actors, are often delayed in either Aden or Sana'a as they negotiate with representatives of the warring parties to gain access to the affected communities.[146] Companies operating in Houthi-controlled areas, and possibly also in areas controlled by other parties, are forced to pay taxes and royalties.[147] Distributors incur higher risks and costs by interacting with representatives of the warring parties, making it difficult for local companies to continue operating.[148] In addition to these hurdles, the availability and cost of fuel determines the cost of transporting food, which in turn affects local food availability and access in Yemeni communities.[149]

Markets in most parts of Yemen are still functional despite these challenges. They provide sporadic but reliable access to basic commodities. However, the availability of imported food has declined, and prices are higher than before the conflict. Suppliers and freighters pass on additional costs to the consumers. Food prices have risen annually since the conflict started, due to the conflict environment and global markets. Between July 2020 and July 2021, prices for the minimum food basket rose by 23 per cent in Houthi-controlled areas and 52 per cent in areas controlled by the Yemeni government.[150] The measures introduced to contain the spread of the Covid-19 pandemic in both global and Yemeni supply chains resulted in further price increases.[151] This makes food unaffordable for most Yemeni households as they have lost income and have become largely aid dependent because of the conflict and the measures introduced to contain the spread of the Covid-19 pandemic.[152]

Food systems and prospects for peaceful relations in Yemen

Conflict continues to fuel food insecurity by disrupting the food system and the economy and causing the displacement of communities in Yemen. As with the case of Venezuela, there are ways in which the food system in Yemen can generate conditions conducive to peaceful relations. This is partly dependent on rebuilding local food systems and strengthening community resilience, and partly on rebuilding social networks and local institutions.[153]

Humanitarian and development agencies use food assistance to address rising food insecurity and prevent famine in Yemen. Currently, several humanitarian agencies provide food assistance to beneficiaries in kind and through cash-based transfers or vouchers redeemable at local retailers.[154] However, food assistance has also become a valuable commodity in the war economy. Members of the Houthis and the Southern Transitional Council armed groups divert food assistance to feed their soldiers or to sell on the black market.[155] Government authorities who are party to the conflict provide data that is used to target beneficiary communities, thus enabling them to directly assist their preferred communities.[156] The Houthis reportedly formed 1200

[145] ACAPS (note 143).
[146] Sowers and Weinthal (note 90); Ekström (note 80); and Coppi (note 115).
[147] Elayah and Fenttiman (note 139); Huddleston and Wood (note 141); and Sowers and Weinthal (note 90).
[148] World Bank (note 135); and World Bank (note 141).
[149] Famine Early Warning Systems Network (FEWS NET) (note 90).
[150] Food and Agriculture Organization of the United Nations (FAO), 'Food security and nutrition information and early warning system—Yemen: Market information system', updated 31 Oct. 2021; and Djita and Hill (note 144).
[151] Hashim et al. (note 135); and Ekström (note 80).
[152] Dureab, F. et al. 'An overview on acute malnutrition and food insecurity among children during the conflict in Yemen', *Children*, vol. 6, no. 6 (2019), p. 77; Famine Early Warning Systems Network (FEWS NET) (note 90); Hashim et al. (note 135); Food and Agriculture Organization of the United Nations (FAO) (note 150); Food and Agriculture Organization of the United Nations (FAO), 'Yemen humanitarian response plan 2021', 2021; and World Bank (note 135).
[153] Delgado et al. (note 77).
[154] Sowers and Weinthal (note 90).
[155] Ekström (note 80).
[156] Vuylsteke (note 108).

food distributing non-governmental organizations (NGOs), which were used to loot and sell most of the food assistance intended for areas under their control.[157]

Humanitarian and development agencies also implement programmes to save livelihoods by investing in local food systems and by rebuilding national value chains.[158] Their activities include training and grants, especially for women and youth, temporary employment opportunities to rebuild local infrastructure and technical and support services for farmers.[159] For instance, the Food and Agriculture Organization of the UN (FAO) vaccinated and treated dairy cows to improve herd quality and milk output and trained the farmers to improve the quality of milk products.[160] Such livelihood activities improve local food security by raising yields and farmer incomes. However, these investments are being made during an active conflict, where all parties have intentionally and unintentionally destroyed crops, livestock and infrastructure. Moreover, there are questions about whether the assistance being delivered in Yemen is appropriate and can address the humanitarian needs when there is little reliable data and limited technical staff in the country and in affected communities.[161] This is compounded by what some actors see as an institutional unwillingness by both local and headquarters level staff to address the root causes of the conflict and the operational challenges.[162] Therefore, the efforts to creating lasting livelihood improvements face complex challenges.

The Yemen case study traces the pathways between conflict and food insecurity by showing how food systems, which have been negatively impacted by decades of conflict and political and economic instability, have deteriorated under the current conflict. Through the four pathways—a shift from agriculture to oil; detrimental government policies; migration and displacement; and the politicization and weaponization of food—the Yemen case study shows the impact of violent conflict on the production, distribution and marketing elements of food systems, and the effects of violent conflict on food security. While much of the prevailing food insecurity has been attributed to the reduction in import volumes and agricultural production and the economic fallout from the conflict, it also has its roots in decades of poor governance and corruption.

[157] Ekström (note 80); Elayah and Fenttiman (note 139); and Coppi (note 115).

[158] United Nations Office for the Coordination of Humanitarian Affairs (note 82).

[159] World Food Programme (WFP), 'US$127 million from World Bank to shore up food security and rural livelihoods in Yemen', News release, 29 July 2021; Food and Agriculture Organization of the United Nations (FAO), 'Saving livelihoods saves lives 2017', 2018; and Oxfam, 'Livelihood recovery through community greenhouses in Yemen', Oxfam case study, Sep. 2018.

[160] Food and Agriculture Organization of the United Nations (FAO) (note 159).

[161] Vuylsteke (note 108).

[162] Vuylsteke (note 108).

4. Conclusions

Venezuela and Yemen are case studies that demonstrate the pathways and interconnections between food systems and violent conflict as outlined in the first paper of this three-part policy paper series.[163] Conflict and political instability have had detrimental impacts on the food system in both countries. Yemen is experiencing a civil war and Venezuela is seeing severe political instability, including violence perpetrated by the armed forces, para-police organizations (the *colectivos*) and criminal organizations. There are four compounding factors that emerge from the case studies that demonstrate the pathways, namely a shift from agriculture to oil; detrimental government policies; migration and displacement; and the politicization and weaponization of food. This section discusses these compounding factors in more detail.

Shift from agriculture to oil

Upon the discovery of oil reserves, Venezuela and Yemen underwent an economic shift from agricultural production to oil exports. This had a detrimental impact on food security. The oil revenue helped subsidize food imports, which priced out domestic production, so when oil revenue decreased, there was little domestic production to fall back on. Furthermore, the oil-based economy became intertwined in conflict. The economies of both countries became dependent on the oil income, and this led to the creation of weak institutions that laid conditions conducive to political instability and conflict. In addition, global oil prices are volatile and when prices plummeted, both countries experienced a sudden decrease in income from oil exports. This drop caused food imports to become expensive, due to dwindling foreign currency reserves and a devaluation of the local currency, and led to economic and political instability and food insecurity. As a result, in Yemen, non-state armed groups, challenging an unstable government, for instance, found it easier to take advantage of the growing vulnerability of the population for recruitment into their groups.[164] In Venezuela, oil income was a political tool used as patronage to fund social expenditure.[165] As this paper has shown, when oil income decreased dramatically, these clientelist structures were not demolished but shifted to other resources, in this case the government used food to gain support and legitimacy among the population and control opponents. Both case studies show that a strong food production sector is essential for food security and political stability, as a hedge against falling oil prices, dwindling revenue and the resulting rising costs of importing food.

Detrimental government policies

However, it is the political environment and the effectiveness of the government in finding solutions to dwindling oil income that determines whether oil-exporting countries experience conflict and patronage and thus economic and political instability. Policy decisions in response to a reduction in oil income in both countries have had detrimental impacts on the ability of the food system to function effectively. This has led to high food prices, increasing food insecurity and growing violence. Poor policies have also led to a profitable black-market economy in both countries. Yemen withdrew subsidies for imported staple foods and the conflict disrupted

[163] Delgado, Murugani and Tschunkert (note 1).

[164] International Crisis Group (note 102); and Ross, M. L., 'Blood barrels', *Foreign Affairs*, May/June 2008; and Basedau, M. and Lay, J. 'Resource curse or rentier peace? The ambiguous effects of oil wealth and oil dependence on violent conflict', *Journal of Peace Research*, vol. 46, no. 6 (2009).

[165] Marsteintredet, L. and Orre, A. Always choosing the oil rents. How leaders in Angola and Venezuela brought their countries to ruin, CMI Working Paper No. 10 (Chr. Michelsen Institute (CMI): Bergen, 2016.

attempts to control lucrative qat production. Qat producers pay the warring parties for protection and access to fuel for irrigation. Meanwhile, armed groups receive free qat, which they use as a recruitment incentive. In Venezuela, subsidized food supplies are diverted and sold at higher prices on the black market. The profits strengthen the armed groups and generate, as in Yemen, a pool of recruits. The case studies of Venezuela and Yemen provide further evidence for the two-way relationship between violent conflict and food insecurity. Armed conflict in Yemen and political violence in Venezuela negatively impact the food system and levels of food security. At the same time, inefficient and ineffective policies that support the creation and growth of a black market for food and food-related resources exacerbate violent conflict.

Such developments are relevant beyond Venezuela and Yemen and are also seen in other conflict-affected countries. In Syria, for instance, also an oil-producing country, agricultural inputs became scarce due to the conflict, which drove the development of a thriving black market, underscored by a patronage system. There was embezzlement of subsidized fuel and the smuggling network flourished in collaboration with criminals and militias, financing various armed groups active in the Syrian civil war (2011–present).[166]

Migration and displacement

Migration is another driver affecting food insecurity and violent conflict that was observed in both countries. In Yemen, internal migration has put additional demand on food systems in the areas to which migrants and displaced people move. These findings are consistent with other studies that show that conflict-induced migration puts pressure on host communities. The increased demand on food supplies can lead to food shortages and resource scarcity if the local market cannot cope. This can be a factor leading to further conflict.[167] The bribes and taxes paid to organized criminal groups by Venezuelans crossing into Colombia provide a further example of non-state armed groups carrying out cross-border activities for material gains and strategic purposes, as an 'opportunistic use of borders'.[168] The taxes and bribes collected represent a source of income with which criminal gangs and non-state armed groups can finance their activities.

Politicization and weaponization of food

Finally, conflict actors in both countries politicized and weaponized food, including food aid. In Yemen, parties to the conflict have systematically attacked food system infrastructure, and critical humanitarian aid deliveries have been susceptible to coalition-led restrictions on imports. In Venezuela, government interventions (CLAP) task the army to deliver food to the most vulnerable households. CLAP are used as a tool for social control in an increasingly authoritarian and violent context. The government uses food as a political tool to manipulate and control the Venezuelan population. Furthermore, the government has repeatedly denied that there is a crisis and has only recently allowed international humanitarian aid into the country. Thus, the strategic politicization of food and food aid in the case of Venezuela and the weaponization of food in Yemen have led to major disruptions in the food system in both countries. These results provide a direct demonstration of the negative impact

[166] Madi, N., 'Cultivating a crisis: The political decline of agriculture in Syria', European University Institute, Technical Report, 2019; and al-Mahmoud, H., 'The war economy in the Syrian conflict: The government's hands-off tactics', Carnegie Endowment for International Peace, 15 Dec. 2015.

[167] Bora, S. et al., *Food Security and Conflict*, Background Paper (World Bank: Washington, DC, 2010); and Mildner, S.-A., Lauster, G. and Wodni, W., 'Scarcity and abundance revisited: A literature review on natural resources and conflict', *International Journal of Conflict and Violence*, vol. 5, no. 1 (2011).

[168] Rumford, C., *Cosmopolitan Borders* (Palgrave MacMillan: London, 2014); and Dib, A., 'The links between illegal migration and organised crime', Expert Comment, Dialogue of Civilizations Research Institute, 2019.

of violent conflict on the food system through both the politicization of food and food aid and targeted attacks on assets and resources—often resulting in physical harm to agricultural workers—which disrupt the production of agricultural goods and livestock, essentially threatening food security.[169]

The findings in both case studies around food import restrictions and the use of food as a means to control the population are consistent with previous studies. Food is politicized and weaponized by conflict actors by cutting off food supplies, including aid, essential services and productive capacities, forcing opposing populations into submission.[170] Similar dynamics are found in the current conflict in Tigray, Ethiopia, where Eritrean troops reportedly stall and loot food aid.[171] In Syria, the government has targeted food systems as part of a 'kneel or starve' policy, so-called after graffiti scrawled on walls by government loyalists.[172] Unlike Venezuela and Yemen, Syria was a net food exporter before the war, so besieged cities that relied on food from rural areas in Syria were sealed off from both locally produced food supplies and humanitarian aid.[173] While the strategies differ, all have the same goal—to control the population and force opposing parties into submission.

The case studies of Venezuela and Yemen demonstrate how the intricate relationship between violent conflict and food insecurity plays out. The studies provide further evidence of the pathways and interconnections between the food system and violent conflict, illustrating the importance of food security for national security. The conflict environment has had detrimental consequences for food security in both countries. While it is unlikely that any one of the factors or drivers outlined in this paper would lead to conflict alone, when they are interlinked, as outlined in the first paper, they influence the context and form conditions that impede peace and create or exacerbate conflict.[174] The findings of this paper make clear the importance of working towards sustainable and equitable food systems in order to contribute to creating the conditions for peace to prevail. To this end, the paper offers four recommendations below, for the attention of governments and their humanitarian and development partners.

The third and final paper of this series addresses opportunities and practical steps that can help break this cycle of food insecurity and conflict.

Recommendations

These four recommendations seek to provide guidance for well-designed interventions that can be developed to limit the long-term consequences of conflict and food insecurity, and develop the potential for food security to foster peace.

1. Donor governments, regional bodies and others should, in a more concerted and systematic way than at present, put pressure on warring parties to cease the politicization and weaponization of food. In Venezuela this would involve improving the conditions for food production, distribution and marketing by reducing state control on food

[169] Action Against Hunger, 'Conflict and hunger: How the UN & member states can help to break the cycle', Briefing, [n.d.].

[170] Barry, H., 'Starving out the enemy: Withholding food aid as a tactic of war in South Sudan', *Mapping Politics*, vol. 8, no. 2 (2017); and Maxwell, D., 'The politicization of humanitarian food assistance: Using food aid for strategic, military and political purposes', eds M. Ndulo and N. van de Walle, *Problems, Promises, and Paradoxes of Aid: Africa's Experience* (Cambridge Scholars Publishing: Newcastle Upon Tyne, 2014), pp. 138–170.

[171] World Peace Foundation, *Starving Tigray: How Armed Conflict and Mass Atrocities Have Destroyed an Ethiopian Region's Economy and Food System and are Threatening Famine* (World Peace Foundation: Somerville, MA, 2021).

[172] 'The ultimate barbarity', *Economist*, 3 Sep. 2016; and Global Rights Compliance Group and World Peace Foundation, 'Accountability for starvation crimes: Syria', Policy Brief no. 3, June 2019.

[173] Global Rights Compliance Group and World Peace Foundation (note 172); and Ababsa, M., 'Syria's food security: From self-sufficiency to hunger as a weapon', eds A. Kadri and L. Matar, *Syria: From National Independence to Proxy War* (Palgrave Macmillan, 2019), pp. 247–267.

[174] Delgado, Murugani and Tschunkert (note 1).

imports and restoring commercial and private property rights in a way that respects the human right to food as enshrined in the constitution. This would create an enabling environment for actors with expertise in the food system to operate and restore links to global food supply chains. Over time, this would improve food availability and could reduce the viability of food black markets. In Yemen, this would involve pressuring the SLC to fast-track the approval and docking of vessels carrying food, medicine and fuel into Yemen and instead implement rigorous searches on cargo suspected of carrying weapons. Combining shorter times at sea with other import incentives that could be offered by Aden and Sana'a authorities would remove many bottlenecks in Yemen's supply chain and increase food availability in Yemen.

2. Governments in conflict-affected countries and their relevant public and private partners should invest in research and development to promote more sustainable and competitive ways of growing affordable and nutritious food. In Venezuela, research and development could explore the potential of urban agriculture as an important component of food sovereignty. Urban agriculture would serve a dual function. First, more locally grown fresh food would increase dietary diversity in urban areas. Second, it would reduce dependence on black markets, which are fuelling the crisis. In Yemen, investment could focus on strengthening traditional irrigation and water harvesting technologies while developing and enforcing water governance mechanisms. Institutional mechanisms and existing national bodies like the National Water Resources Authority and regional and local actors should be strengthened to regulate water governance and develop context specific water management systems. To enhance the sustainability of local food production, actors of the food systems should combine the existing knowledge of traditional agricultural irrigation mechanisms like rainfed agriculture, spate water irrigation and terrace farming with sustainable technology such as drip irrigation to grow drought-tolerant food crops. More sustainable and competitive local production could help IDP-receiving areas cope with additional demands to the food system.

3. Donor governments, aid agencies and governments in conflict-affected countries should expand the capacity of the food systems and water, health and sanitation infrastructure in communities receiving and hosting refugees and IDPs, and expand the capacity of IDPs and refugees to become self-reliant. This requires a systems approach with interventions designed at three levels; (*a*) institutional level—updating and developing laws and regulations which allow IDPs and refugees to work; (*b*) community level—doing no harm, introducing conflict sensitive interventions and promoting social cohesion; and (*c*) individual level—giving individuals access to livelihood opportunities through training, employment and productive resources. Programmes targeting vulnerable members of the host community must also be implemented where there are interventions to assist migrants. Interventions would be preceded by a rigorous conflict analysis and considerations of what is appropriate given the food system and conflict sensitivity concerns.[175]

4. Governments and their donor partners should invest in research to generate knowledge on food and other critical commodities sold on black

[175] SIPRI's work on the WFP knowledge partnership demonstrates how this can be done. More information can be found at https://sipri.org/publications. Particularly relevant reports include: Delgado, C. et al. (note 77); Delgado (note 59); and Delgado, C., *The World Food Programme's Contribution to Improving the Prospects for Peace in El Salvador* (SIPRI: Stockholm, 2019).

markets in conflict-affected communities so that they can design more effective responses. Potential research areas include the role of black markets, how black markets fuel conflict, and the trade-off between black markets being illegal but providing a reliable means of accessing food when legal markets are non-existent. Knowledge generated from this research could be used to improve the quality of policy responses and other interventions. This includes dismantling black markets, making them less attractive, increasing food security, breaking conflict financing, developing social policies and strengthening the private sector as an alternative to black markets.

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