

SESSION 4.2:
SOLUTIONS FOR RESILIENT FOOD AND NUTRITION SYSTEMS OFF-FARM

Supply chains in a modern geopolitical environment

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Abstract

Global food security in a riskier world is a vitally important topic. Nearly 830 million people are food insecure – there are real and urgent challenges facing the global food system. Topics such as market access and the empowerment of people, especially as it relates to smallholder agriculture in the Asia Pacific region, are critical. As Cargill sits at the centre of the global agricultural supply chain, working alongside farmers, producers, manufacturers, retailers, governments, and other organisations, the presentation will raise solutions for resilient food and nutrition systems, with particular emphasis on the supply chain. It will explain the Cargill experience of the implications for farmers of disruptions to global supply chains in a modern geopolitical environment including from rising demand, climate and geopolitical conflict. Experiences from COVID-19 lockdowns and the more recent disruptions due to the war in Ukraine, have had significant implications for farmers and agribusiness and strategies for diversification of markets, more flexible and resilient supply chains, and planning for resilience to reduce future vulnerability for the benefit of consumers and growers will be considered. One if not the most urgent challenge is the climate crisis. Cargill is committed to reducing the climate impact of agriculture and agriculture is part of the solution to this challenge. Working with suppliers, customers, and partners, action-oriented, lasting solutions and several practical examples will be outlined.



It's a privilege to be here to talk to you and share some thoughts with you today about practical ways that we can build resilient supply chains in the agri-food sector – and not just *resilient* supply chains but also *sustainable* supply chains.

Before I start, I would like to take one moment to acknowledge the passing in June of [Mike Taylor](#), who was a friend and a colleague of mine and of many people in this room. Mike made a substantive contribution to this country and around the world in regard to policy – in agriculture, and transport, and agricultural development. He also mentored many, many people in the industry; and I would like to pay my respects to him.

In this 10-minute talk about a very big subject, I'm going to highlight some themes that I hope you will be interested in following up and talking about. In fact, I *need* you to do that, because the conclusion of my talk will be about partnerships: new partnerships that, as an industry, private, government and research community, even ten years ago, we would not have thought possible. We see a different dynamic now in terms of the capability that we need to build to overcome the challenges facing us, and no one company, even a company like Cargill, can do that alone.

I will briefly introduce Cargill, and then talk about the resiliency of supply chains and our involvement in that; why we have such an interest in resilient sustainable supply chains from the private sector. Then I will give some practical examples about building sustainability in the supply

chains: not the theory or the concept of it (you know that better than me) but practically what we can do. I want to end by speaking about *people*, because we need to work together.

About Cargill

Cargill had a humble beginning 157 years ago at a grain elevator in the Midwest of the United States. We are now the world's largest private company, and we are proud that the world's largest private company is not a technology company, nor a mining company: it's an agricultural company. We work in over 70 countries, and I and my 160,000 colleagues seek to drive a safe, responsible and sustainable integrated supply chain (Figure 1), because we are in the supply chain business!

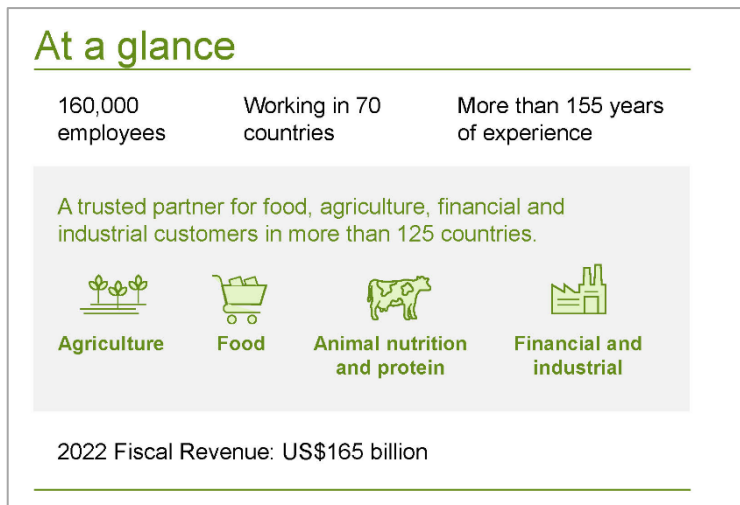


Figure 1. Overview: Cargill's purpose is to nourish the world in a safe, responsible and sustainable way.

Our customers are companies that provide consumers with food, ingredients, consumer packaged goods; and our customers are farmers producing the food and fibre that the world relies on. For a company like Cargill and others like us our job is to connect that food system. We provide insights to our partners. We transform raw materials into finished goods. We move products around the world. If we don't have a resilient, sustainable food system, then a company like Cargill doesn't have a business.

People often look at large companies like Cargill and say, 'Well, what's your vested interest? What are you trying to do? Why are you involved in that project? Why are you investing in that community? Why are you involved in that pilot?'. Well, we *do* have a vested interest in a resilient, sustainable food system, because that is our business. That's what our family owners expect, and what our 160,000 employees expect, and what the communities in which we work expect, and what our customers expect. So, yes, I admit we *do* have a vested interest. Cargill's ambition is: 'To have the most sustainable food supply chains in the world. Through our long history, we have seen agriculture be part of the solution to the world's most urgent challenges. We know that we must address climate change and conserve water and forests, while meeting the rising demand for food.' We need to work together because we all know that the challenges to the global food system are real and getting worse, as has been said multiple times in the address last night and by speakers today. There are significant challenges in the world and in this region that are unique in regard to smallholder agriculture, and not easy to address. Certainly, we at Cargill don't know how to address these alone.

Open markets

Trade is our best means to end hunger. Price signals are important for encouraging farmers to manage supply. Food should never be used as a weapon.

Trade restrictions only worsen hunger. We need to keep markets open. Our job as Cargill is to take food from areas of surplus to areas of deficit around the world through our supply chain system, and we cannot do that efficiently if we face restrictions in markets. That’s the reality of it. It is not just economics. It is cold, hard reality that it is in our interest to keep markets open.

As a private sector company, we have to continue to advocate and make the case to our governments and policy makers about that because trade and price signals are not in our control.



Sustainability throughout the supply chain

One thing we can practically do is seek to make our supply chains more sustainable. You would expect us to do that. Our customers expect us to do that, and in fact, we make specific corporate commitments in that regard, and have set priorities in the areas of climate, land & water, and people (Figure 2).

For example, in our operations, we would seek to reduce our emission profile from our plants and operations (Figure 3). There are a few ways we can do that. One is simple operational efficiency. If we can produce more with less, if we can get our throughput and our yields and our operational efficiency in our plants higher, then we will in effect produce more food or more product or process more product with less energy use. We spend millions and millions and millions of dollars on that, and our people think about that every single day. We also look at the energy we use in our plants and we innovate around that, whether it’s solar projects in Australia that we’ve just completed, or wind projects in China that we’ve just completed, or our biomass projects in our palm plantations in Indonesia that we’ve just completed. We are innovating in that area all the time, so as to drive that emission profile out of our direct Scope 1&2 control.

Our Operations

Scope

1&2

By 2025, we will reduce greenhouse gas emissions caused directly or indirectly by our operations by 10%, compared to a 2017 baseline.

We are investing in emissions reducing technology and renewable energy to power our operations.



Figure 3.

But that is not enough. We must also work along our supply chain, because a big proportion of emission profile exposure of a company like Cargill comes from the farm sector direct and through our transport supply chain. Therefore, we need to seek to influence that, not just our direct operational control (Figure 4).

Our Supply Chains

Scope

3

By 2030, we will reduce greenhouse gas emissions produced from sources in our extended supply chain by 30% per ton of product.



Figure 4.

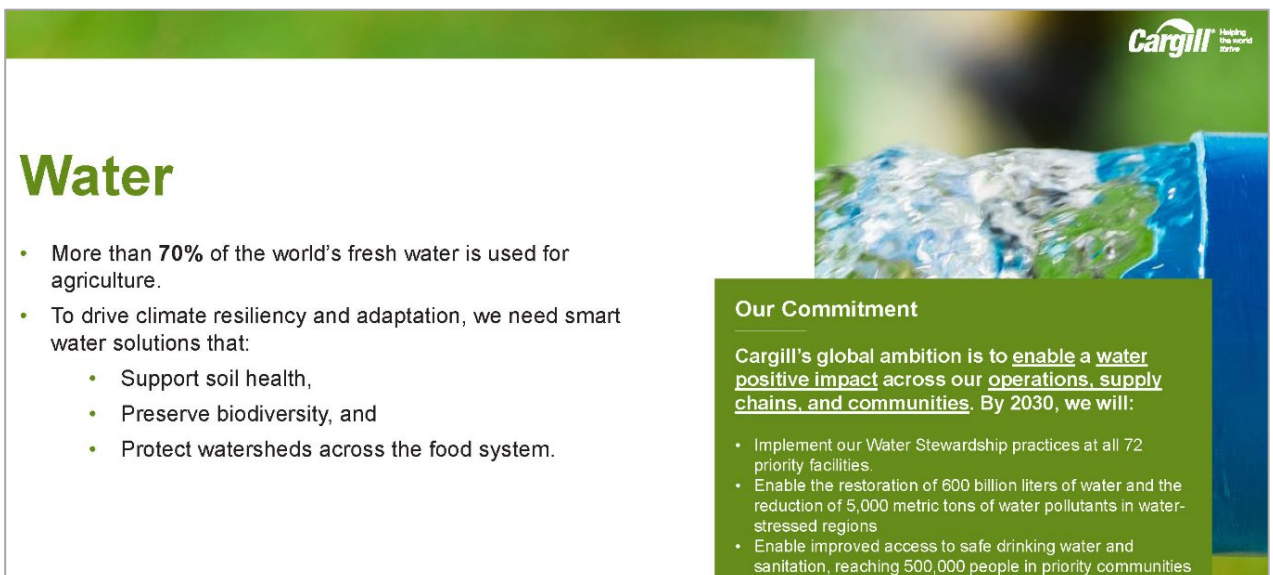
Here are some examples of how we would do that. We now pay – not just encourage – farmers, direct, for environmental services. We pay farmers, direct, per tonne, to sequester carbon in parts of the world. We incentivise farmers to optimise nutrient management. We incentivise and support farmers to use nitrogen-inhibitor and urease-inhibitor technology (see Roya Khalil’s paper, this Proceedings). Why do we do that? Because we need to produce yield with a smaller emission profile. We need to do that to meet our own corporate commitments; and our customers expect that. They want to know what their emission profile is, from us, and they want to know how to

decarbonise against it. They don't just want it: they expect it. So we are setting up programs all around the world directly incentivising farmers and working on environmental markets to make sure that those markets can have integrity and credibility and transparency, and grow and provide new revenue markets and new revenue streams to farmers.

It is certainly not easy, but it is easier to do that in the Midwest of the United States and in southern New South Wales than it is in smallholder agriculture in China or India or many of the countries in which you, here today, do research.

That is why we need your expertise to help us do that.

We also work in our transport sector to try and seek to reduce the emission profile of transport. One example is that in the last couple of weeks we have begun putting 'sails' (such as BAR Technologies WindWings) on ships to reduce the energy consumption from ocean vessels (we have about 600 ocean vessels on the water any one time). We are seeing emission reductions as a result of that. It is not easy to do, but this is the type of new innovation that is happening in agricultural supply chains globally, in order to decarbonise our supply chains.



The infographic features a green header with the Cargill logo and tagline 'Helping the world thrive'. The main title 'Water' is in large green font. The left side contains a list of bullet points. The right side has a blue and white image of water splashing over a globe, with a green box containing the text 'Our Commitment' and a list of specific goals. The Cargill logo is in the top right corner.

Water

- More than **70%** of the world's fresh water is used for agriculture.
- To drive climate resiliency and adaptation, we need smart water solutions that:
 - Support soil health,
 - Preserve biodiversity, and
 - Protect watersheds across the food system.

Our Commitment

Cargill's global ambition is to enable a water positive impact across our operations, supply chains, and communities. By 2030, we will:

- Implement our Water Stewardship practices at all 72 priority facilities.
- Enable the restoration of 600 billion liters of water and the reduction of 5,000 metric tons of water pollutants in water-stressed regions
- Enable improved access to safe drinking water and sanitation, reaching 500,000 people in priority communities

Figure 5.

Water

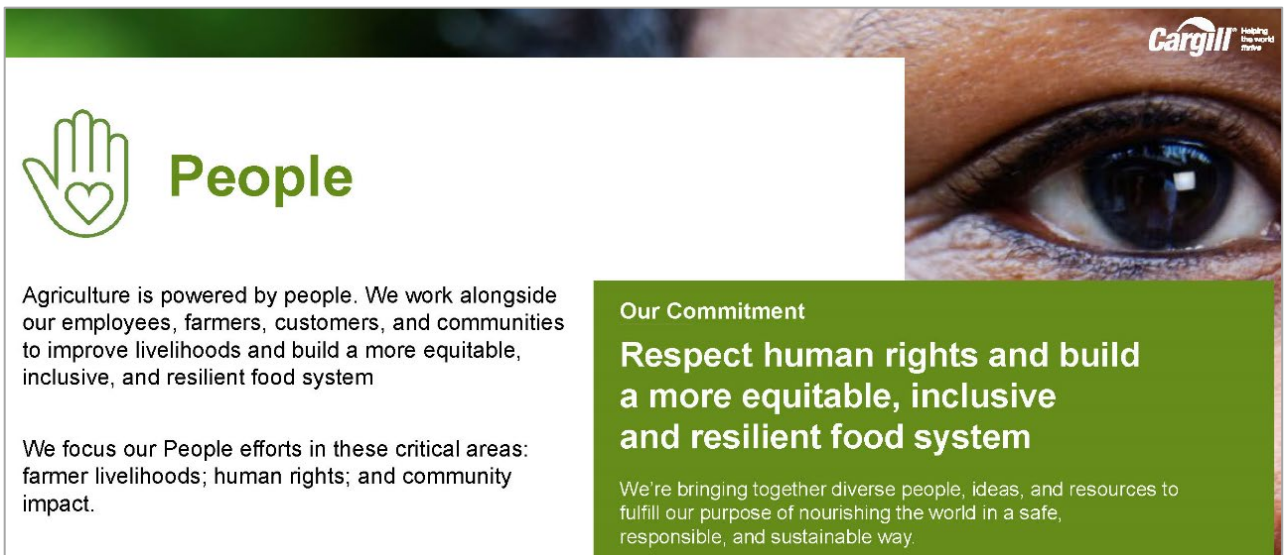
Figure 5 outlines Cargill's water policy. Agriculture is a system. Farmers understand the system and we need to understand the system like farmers do. So Cargill's has water policy and water commitments and projects. Because of our position as a connector of the food system, Cargill has the unique ability to develop holistic solutions that drive impact-at-scale, delivering water-positive impact across our operations, supply chains and the communities in which we operate.

People

Lastly, people. Private sector companies like Cargill know that, despite our scale and our balance sheet (our annual revenue is about US\$165 billion), we have some specific challenges and opportunities in the Asia-Pacific in regard to our communities, and Cargill is investing to make a

difference. One particular challenge is the empowerment of smallholder agriculture. Within the Asia-Pacific there are 450 million smallholder farmers who produce 80% of the food.

We are committed to working alongside farmers to increase the economic, social and climate resilience of farming households and communities (see Figure 6). For example, since 2017, more than 886,000 farmer training sessions have been delivered across 30 countries – from regenerative agriculture practices to biosecurity measures that keep livestock healthy, to information sharing, technical resources and financial support.



People

Agriculture is powered by people. We work alongside our employees, farmers, customers, and communities to improve livelihoods and build a more equitable, inclusive, and resilient food system

We focus our People efforts in these critical areas: farmer livelihoods; human rights; and community impact.

Our Commitment

Respect human rights and build a more equitable, inclusive and resilient food system

We're bringing together diverse people, ideas, and resources to fulfill our purpose of nourishing the world in a safe, responsible, and sustainable way.

Figure 6.

When we focus on *people* and combine that with access to new technology, we can make huge progress. Smallholder farmers typically lack access to technologies, and the fragmented market makes it harder to collectively implement technologies. Providing access to technologies can help improve farmers' productivities, thereby improving their livelihoods. We cannot do that, and it wouldn't be in our interest to try, so we need to work along the supply chain, in partnerships that include smallholders in Asia-Pacific.

We, as Cargill, would seek to work with you on that.

Ben Fargher is the Lead, Cargill Environmental Markets, in the APAC region. In this role he is responsible for a customer-focused Sustainability portfolio, including carbon and water projects, in this part of Cargill's business. Ben is also the Country Representative for Cargill in Australia. Ben recently (Feb 2022) returned from living in the United States, where he held various Managing Director roles in Cargill's North American grain and oilseed supply chain business over several years. Prior to that Ben was the General Manager for customers and grain origination in the Cargill Australia grain and oilseed business. Before working at Cargill, Ben worked as the General Manager of Operations for a publicly listed cotton and grain agribusiness. He was also previously the Chief Executive Officer of the national farm lobby group in Australia, the National Farmers' Federation. Ben, who grew up on a farm in Australia, has a Bachelor of Agricultural Science from The University of Adelaide and a Masters degree in Economics from the University of New England.