Change and Resistance

AGRICULTURE AND THE ENVIRONMENT

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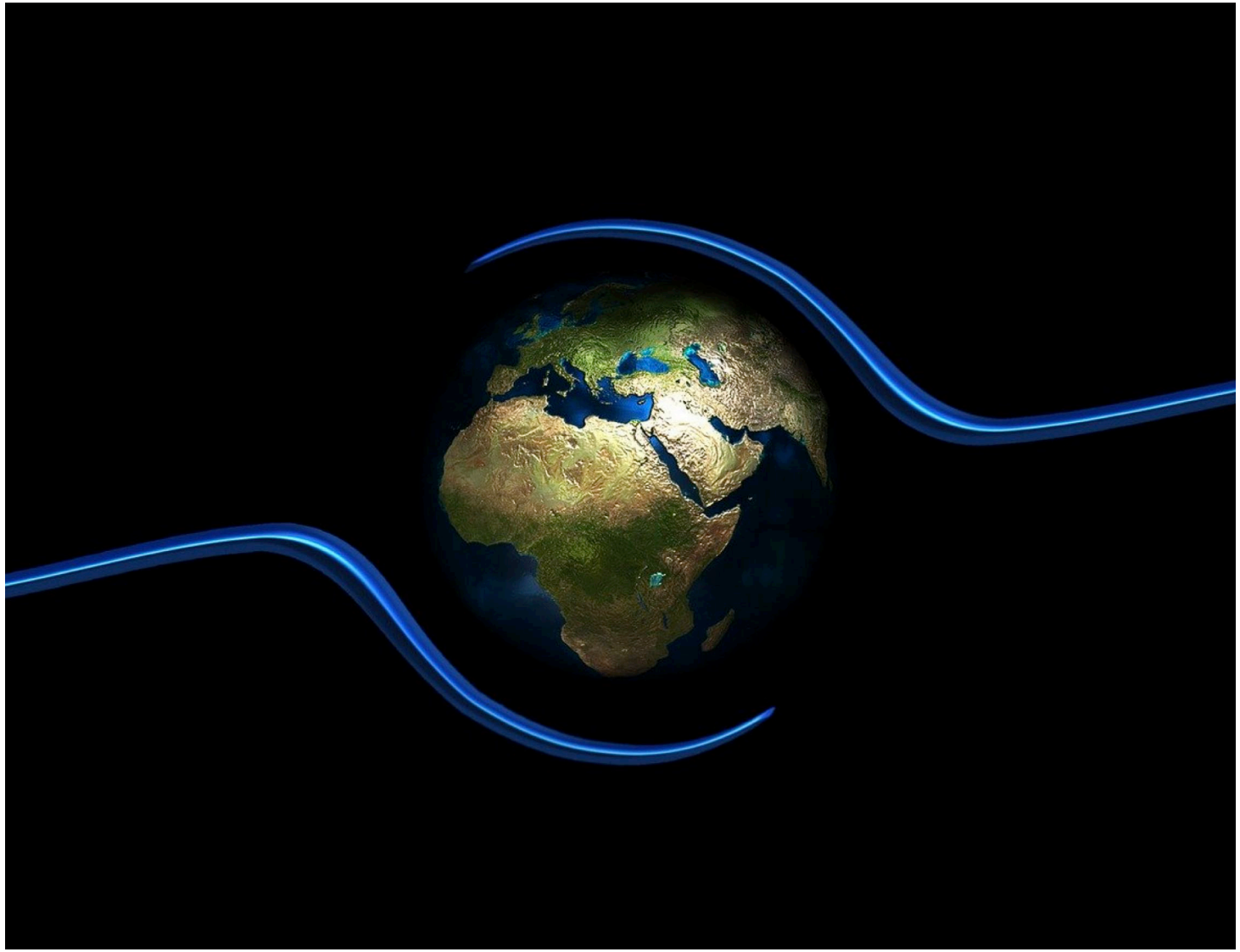
Introduction: Change and Resistance

A time of change….



Change

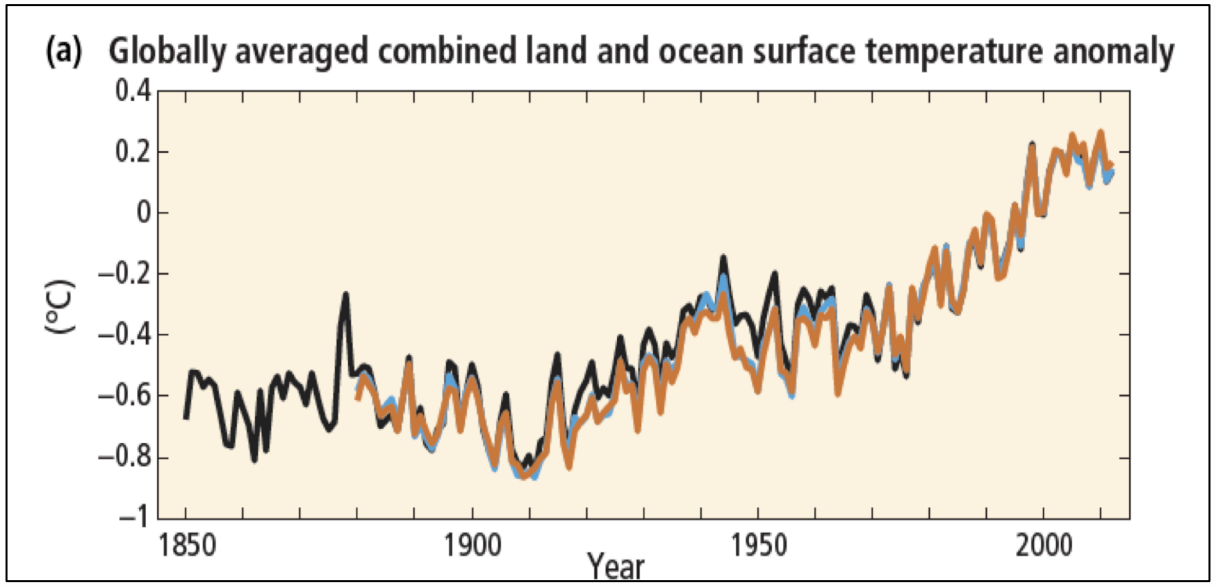
Change in Climate

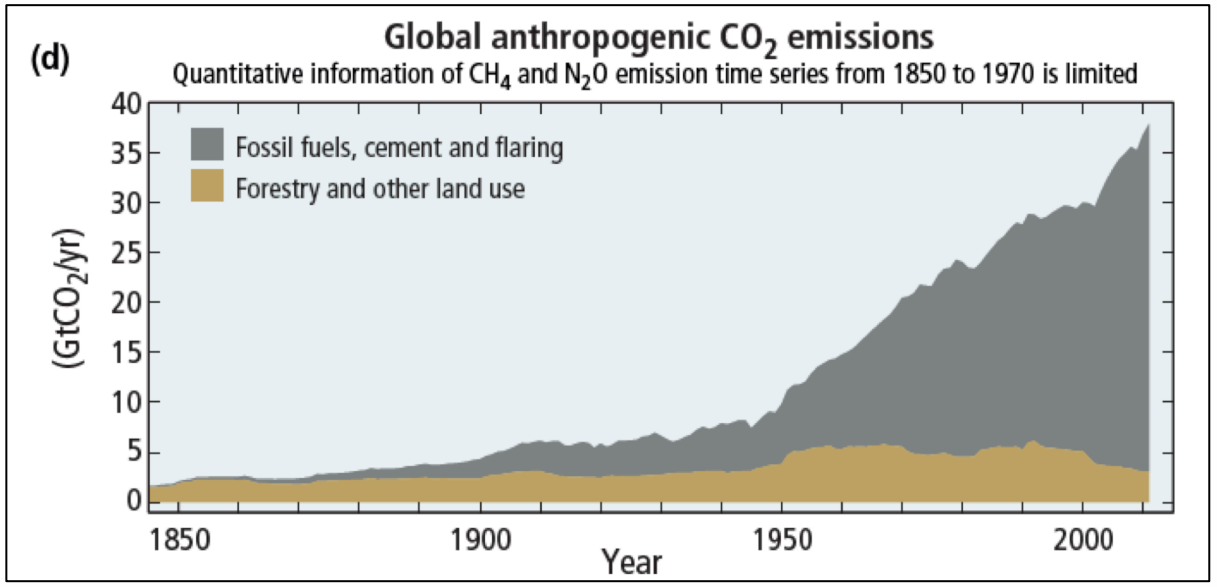
0.87°C

Increase in average global surface temperature, relative to 1850-1900.

Intergovernmental Panel on Climate Change (Hoegh-Guldberg et al., 2018)

Change in Climate





(IPCC 2015)

Change in Climate

4°C

Difference between our current climate and the last Ice Age.
(Prairie Climate Centre)

Change in Agriculture

Climate change brings increased risk of drought, wildfire, and flooding (Field et al., 2012; Trenberth, 2012; Hoegh-Guldberg et al., 2018)

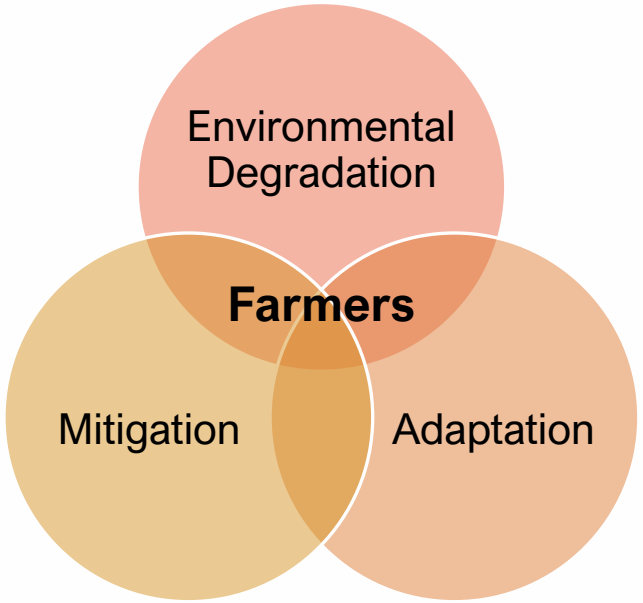
Farmers are highly exposed to these hazards.

Flooded ranch home, Maple Creek, Saskatchewan

Change in Agriculture

Farmers are uniquely positioned in the climate crisis.

They both affect, and are affected by, the climate.



Change and Equality

Climate change does not affect us all equally…

1. Gender

In the Canadian Prairies, farming is still structured by a gendered division of labour.

On the farm, gender roles and expectations affect agency and decision-making power.

Change and Equality

"The division of farm work is: he's in charge...he chooses what he has to do to make money on the farm and I do everything else that he doesn't want to do."

~Saskatchewan farmer

Change and Equality

Climate change does not affect us all equally…

2. Socioeconomic Class

Access to financial resources is a major determinant of vulnerability to climate disasters.

Change and Equality

"All of the trailers [mobile homes] in there—all of them—were hauled to the dump ."

~Small town resident, Maple Creek, Saskatchewan

Trailer court after flooding, Maple Creek, Saskatchewan

Photo: Troy Fleece, Regina Leader-Post

Change and Equality

2. Socioeconomic Class

In agriculture, farmers face the “double exposure” of political-economic pressures and climate change (O’Brien & Leichenko, 2000)

High input costs, low market prices, high debt levels = vulnerability to climate change

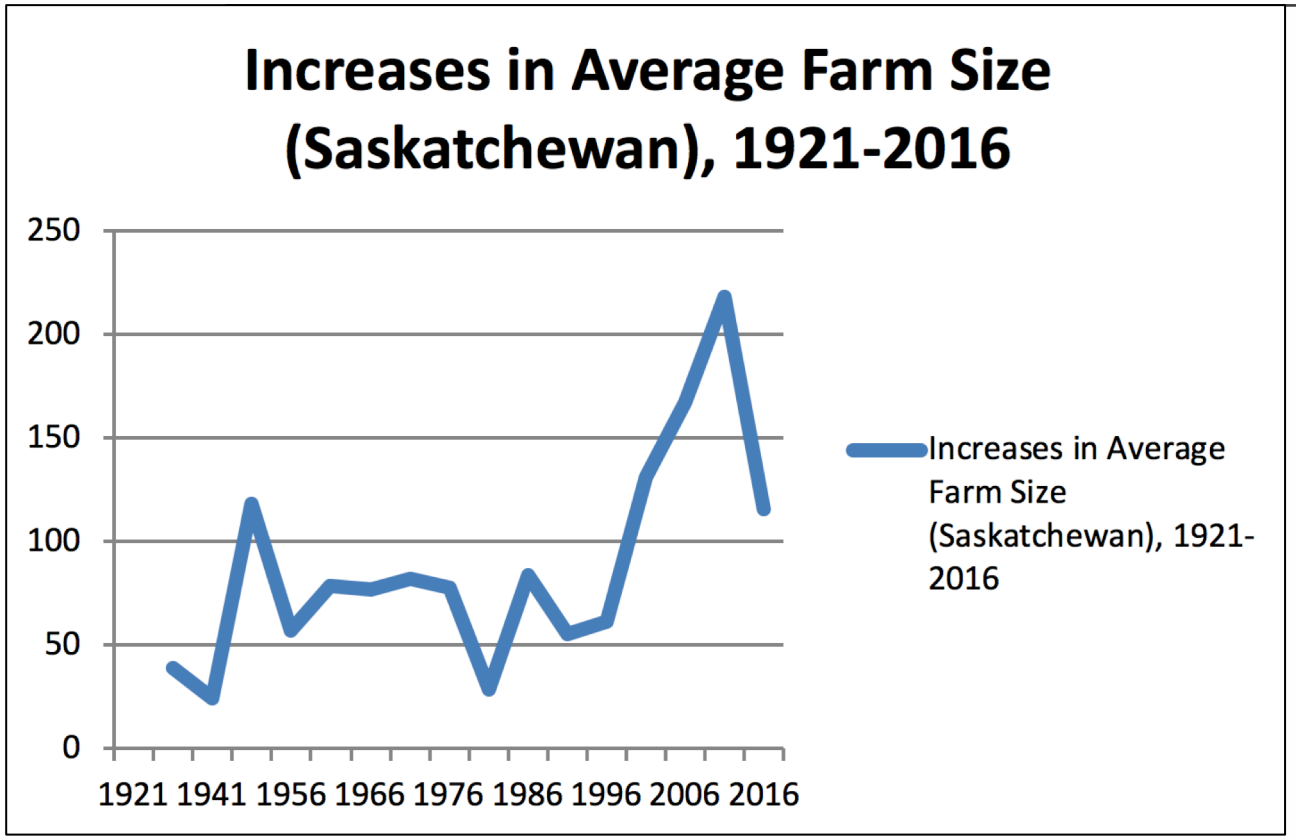
Change and Equality

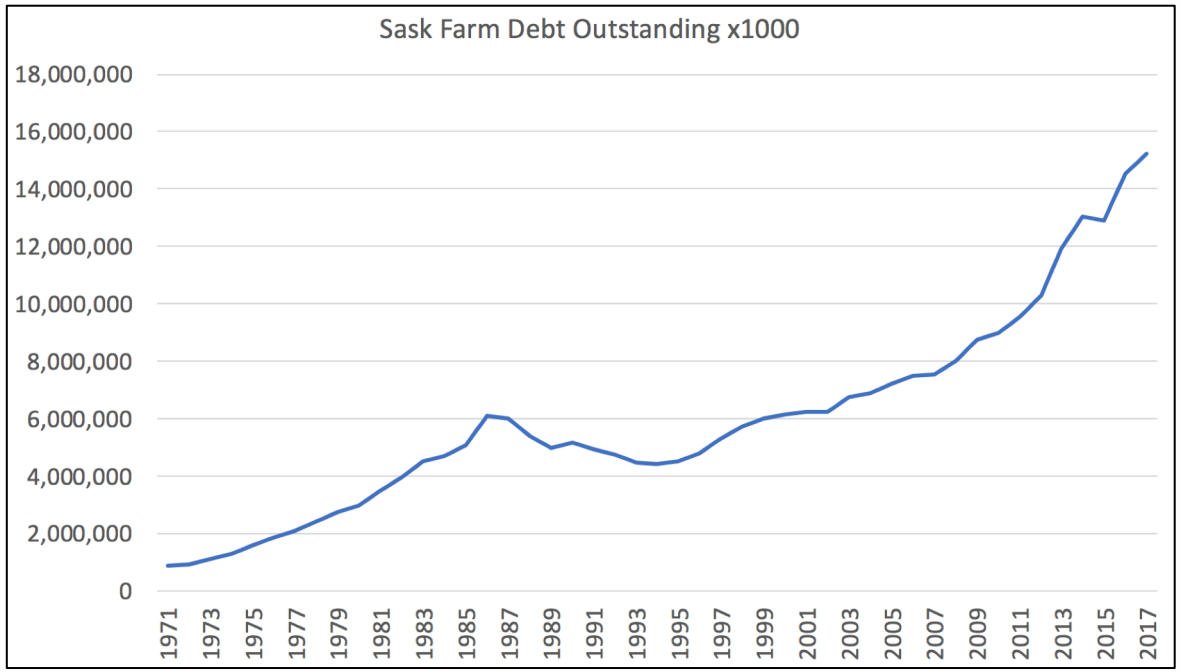
"[Surviving a disaster] all depends financially on your debt load. If you are loaded up and then you miss a payment, then that is when you can get into trouble."

~Alberta rancher

Flooded farm equipment, Kelvington, Saskatchewan

Change and Equality





Data source: Statistics Canada

Change and Equality

"Over the years we've definitely depleted the nutrition, the nutrients in the soil [...] But again, economically, you're forced into going some certain routes."

~Saskatchewan farmer

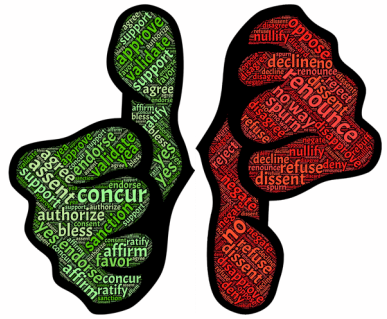
Resistance

Resistance: Climate Change

Resistance to climate science continues...

Prevalent amongst farmers:

- Canada: 10% farmers attributed climate change mostly to human activities; 36% as equally natural/human-caused (Davidson et al., 2019)
  - Compare to general population at 60-67% belief in anthropogenic (Université de Montréal, n.d.; Lachapelle et al, 2015)
- USA: 40% of farmers felt CC is at least partially anthropogenic (Chatrchyan et al., 2017)



Rejection of anthropogenic climate change = a new form of resistance

Resistance: Climate Change

"But then we look back, and it's all quite cyclical [...] We're not buying into a whole lot of climate change stuff. I'll be honest. We just, because, when you look back, all of this has happened before."

~Saskatchewan farmer

The "Dirty Thirties" drought

Photo: Western Producer

Resistance: Climate Change

Figure 1. Mean Flow (m^3/s) of the South Saskatchewan River, Years 1108-2010, Showing Historical Deficits and Surpluses of Precipitation.

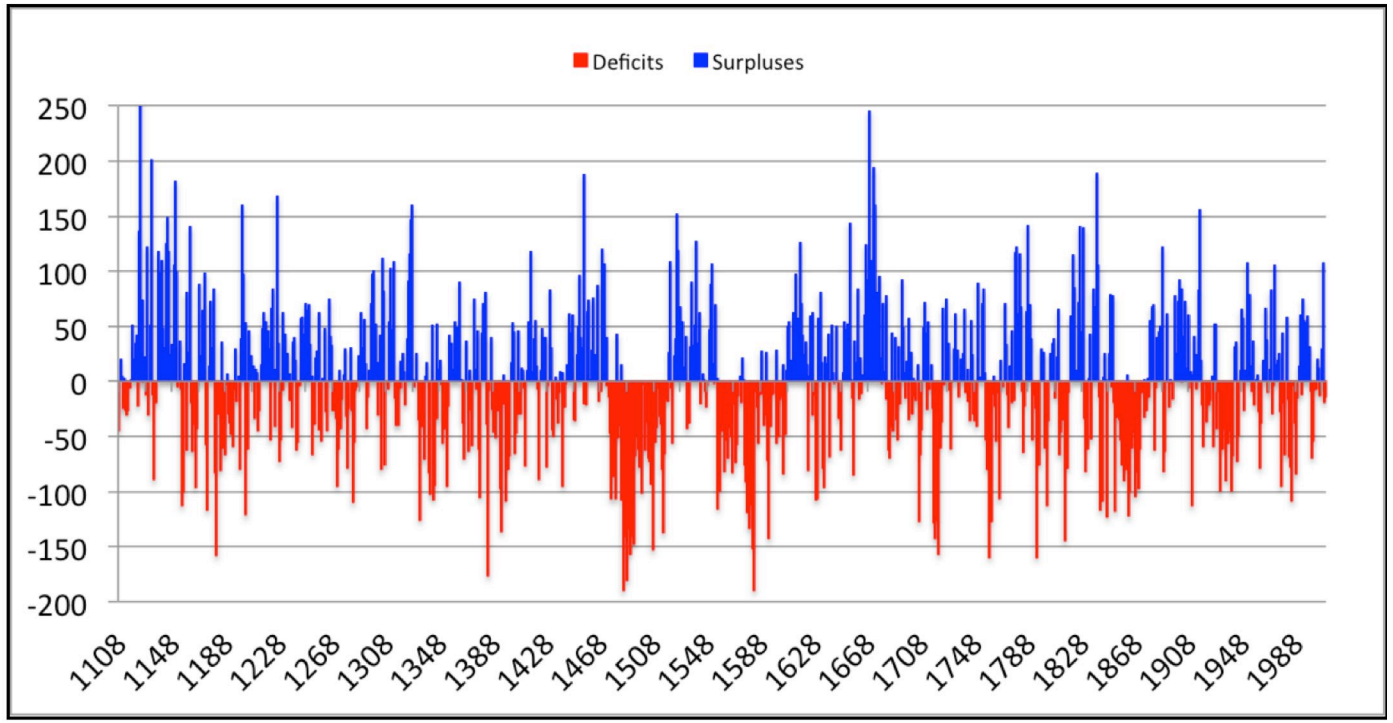


Image courtesy of Dr. David Sauchyn (2016)

Resistance in Agriculture

What are the solutions?

Some farmers are questioning the status quo of the dominant, industrialized system.

Some are resisting.

Alternative food networks, local food, and organic production as a form of resistance (Beingnessner & Fletcher, 2019)

Resistance in Agriculture

"We are seeing increasing corporate control of the food system and we don't think that is right. We want to establish, protect, and maintain institutions in Canada that promote democratic control of our food by farmers and by the people that eat the food."

~Saskatchewan organic farmer

Resistance in Agriculture

"It should be more like: 'how can I make my soil healthy so that my crops are healthy and not try to just get as much you can out of every single acre? ... I think we need to look further into the future and really think about what kind of land are we leaving for future generations, like are they going to be able to make a living off this land, are we taking care of it?"

~Saskatchewan organic farmer

Resistance in Agriculture

What are the solutions?

Women are playing a key role in alternative agriculture and food systems.

	Organic Farms	Other Farms
Female operators	6.6%	5.6%
Male operators	55.0%	61.5%
Female and male operators	38.5%	32.9%

Canada, Census of Agriculture, 2011 (special run)

Resistance in Agriculture

"We [women] don't want to wreck the world, you want to keep it for your children ... you've got to think of the seven generations before and the seven generations to come. You don't just think about yourself."

~Saskatchewan farmer

Conclusion: Change and Resistance

Crises and major changes, from climate to COVID, expose the structures of inequality in our communities and societies.

Resistance is possible, and change can be reconfigured for more beneficial, socially equitable outcomes.

Those who are marginalized within the system understand it. They can lead us to solutions.

Thank you!

Happy Earth Day to all.

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