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## WHY IS SUSTAINABILITY AT FARM LEVEL IMPORTANT?

Dr Craig Galloway





## WHERE DOES THE GREATEST IMPACT OCCUR?

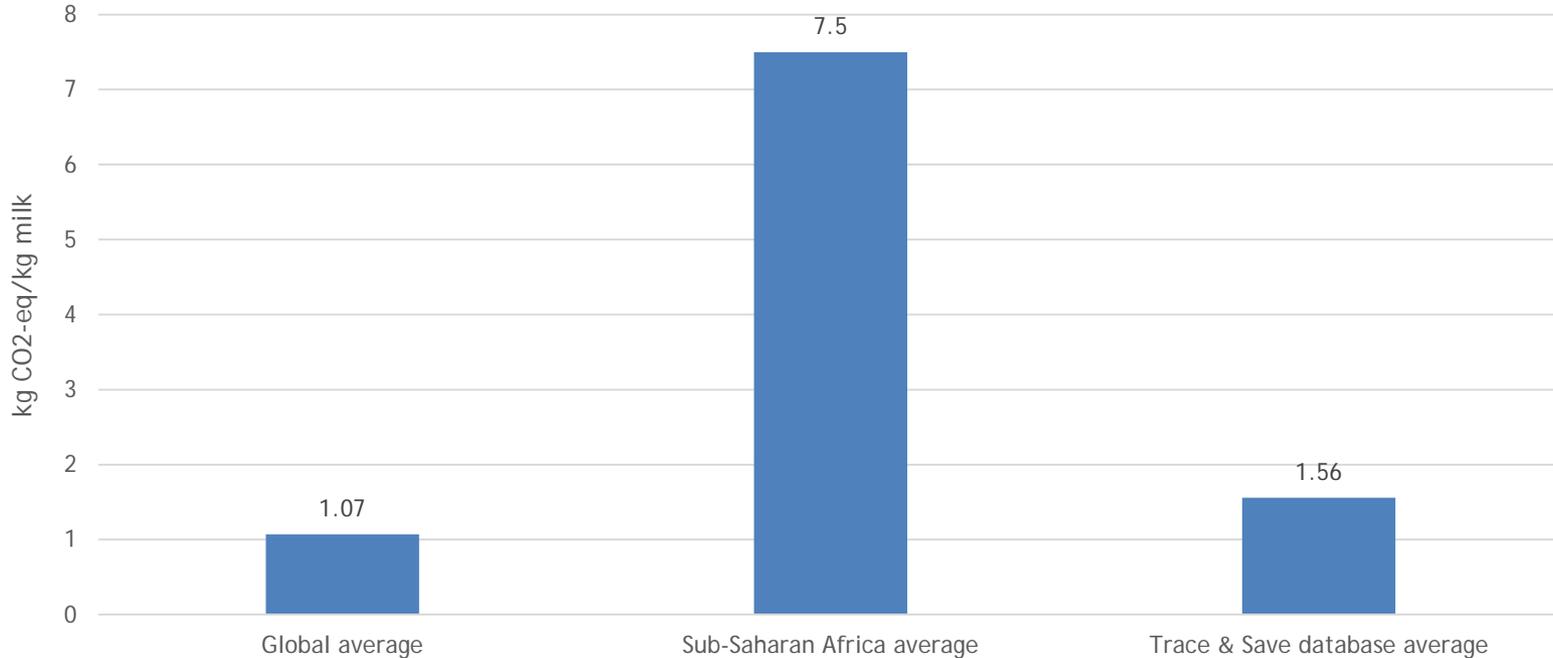
- Food systems contribute 19-29% of anthropogenic GHG emissions<sup>1</sup>
- Of this, agricultural production contributes 80-86%<sup>1</sup>
- Agriculture is a major contributor to global biodiversity loss<sup>2</sup>
- Agriculture accounts for 70% of freshwater withdrawals<sup>3</sup>
- Questions around social responsibility, e.g. people and animal welfare

1. Vermeulen SJ, Campbell BM, Ingram JS. Climate change and food systems. Annual review of environment and resources. 2012 Nov 21;37:195-222.
2. UN Report: Nature's Dangerous Decline 'Unprecedented'; Species Extinction Rates 'Accelerating'
3. Water for Sustainable Food and Agriculture. Food and Agriculture Organization of the United Nations. Rome, 2017

# FARM GHG EMISSIONS



GHG from milk production



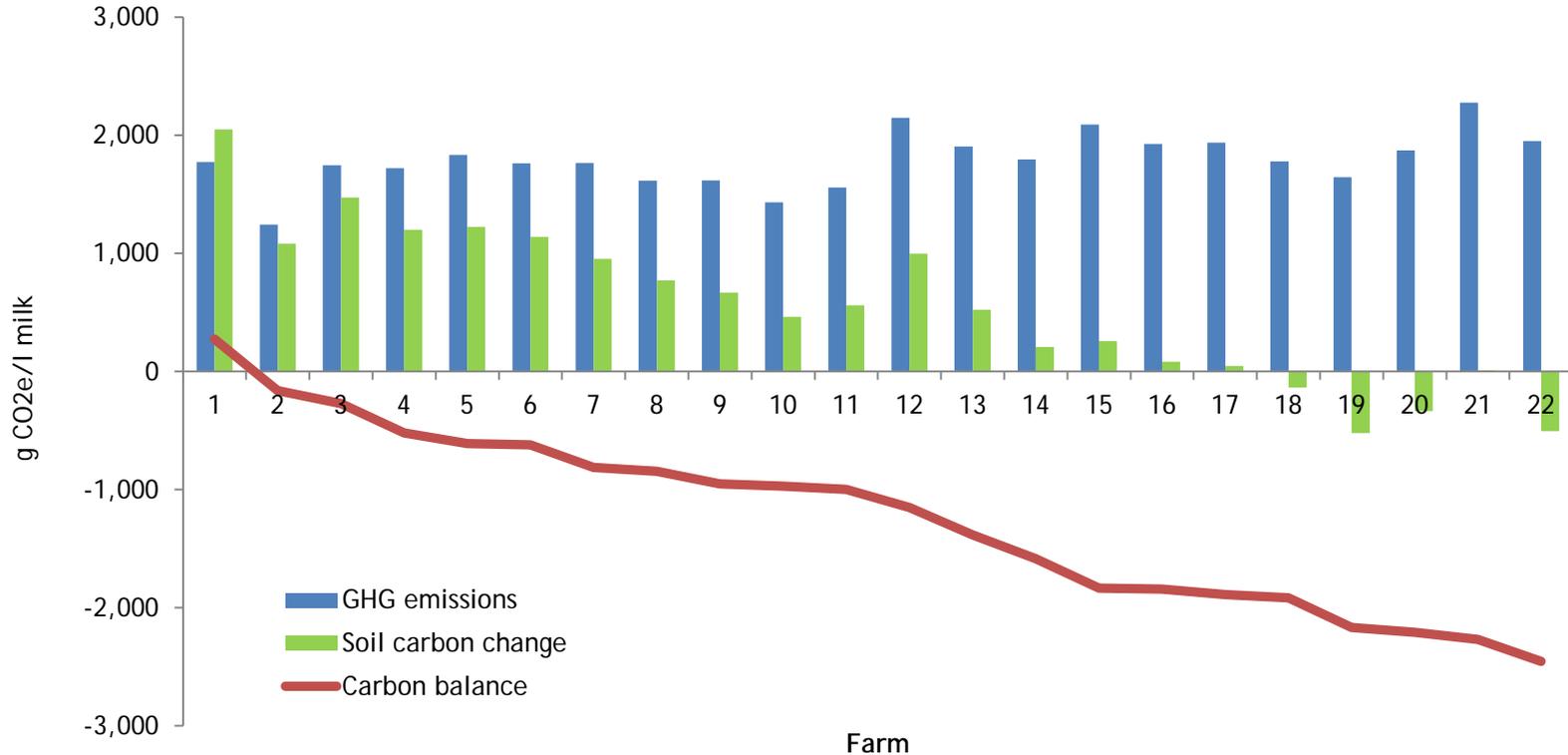


## THERE IS HOPE

- Possible positive impact?
- Sustainable, regenerative agriculture



# GHG EMISSIONS VS CARBON SEQUESTRATION



## Total GHG emissions

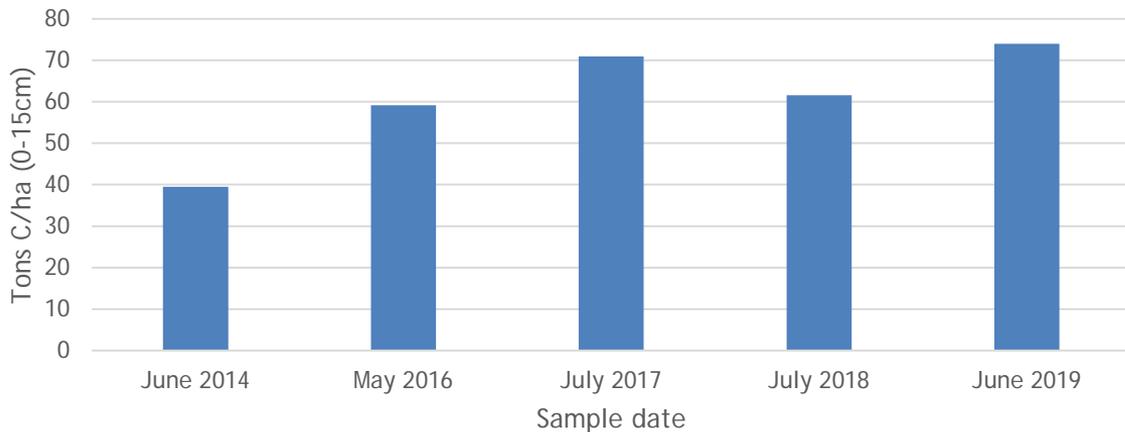


Decrease of 0.51 kg CO<sub>2</sub>e/l from baseline to current year

On this farm producing 11 076 905 litres, it is the equivalent of 5 649 tons of CO<sub>2</sub>e

With a R30/ton carbon tax, that is equivalent of R169 477 saving per year

## Soil carbon change

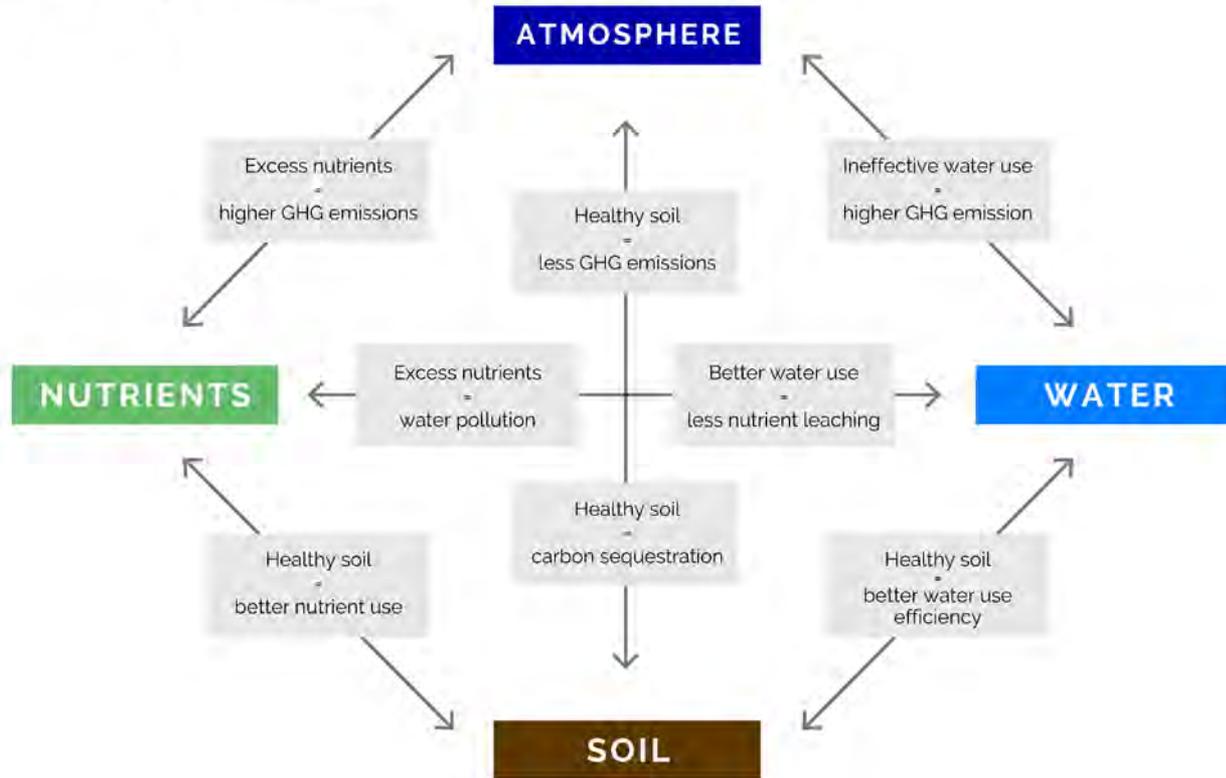


Increase of 34.5 tons soil C/ha from baseline to current year

On this 394 ha farm, it is the equivalent of 49 876 tons of CO<sub>2</sub>e

With a R30/ton carbon tax, that is equivalent of R1 496 267

## SWAN SYSTEM: INTERRELATED FACETS OF SUSTAINABLE FARM MANAGEMENT





## WHAT IS YOUR ROLE?

It is not only the farmers responsibility

- Incentives
- Technical support and extension
- Production standards
- Celebrating champions
- Investing in technology
- Accountable marketing



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