



The Impacts of COVID-19 on food waste globally and in SA

28 July 2020
SAAFOST webinar

Presented by
Prof Suzan Oelofse
Principal Researcher
CSIR

Impact on MSW in SA

- Waste collection services are classified as essential services
- Collections of source separated recyclables were discontinued in many municipalities
- Informal waste picker activities came to a halt during lockdown leading to a sudden loss of income
- National Department of Environment, Forestry and Fisheries rolled out a relief programme to pickers
 - Value of R200 per voucher
 - Vouchers redeemable at at Shoprite, Checkers, Usave, Pick n Pay, Clicks and DisChem.
 - 500 vouchers per province
 - Sponsored by Coca Cola, Plastics SA and the various packaging Product Responsibility Organisations (PRO's).
 - Provinces were requested to submit names, IDs and cell phone numbers of waste pickers

Impact on MSW in Western Cape

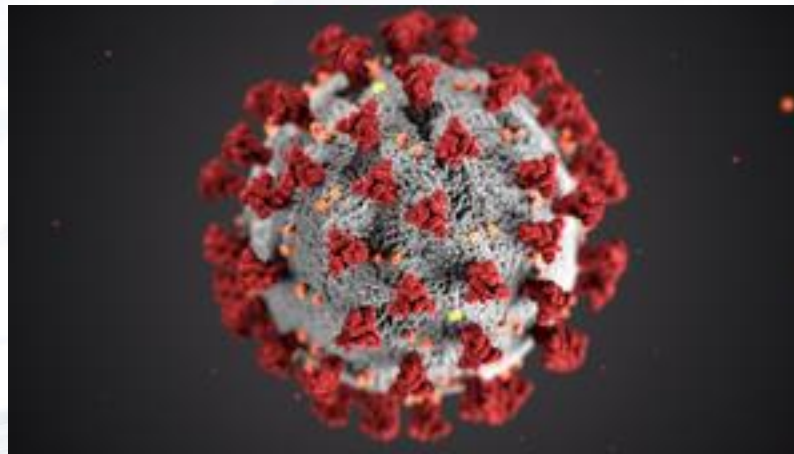
- Decline in general waste generated and disposed;
- Increase in illegal dumping;
- **Increase in health care risk waste generation, treatment and disposal**

COVID-19 waste treated at authorised treatment facilities in kgs

Facility	March	April	May
BCL	63.9	5342.68	19347.81
Compass	5	5679.04	35274.74
Averda - George	0	1562.5	16660.04
Total WC	68.9	12584.22	71282.59
Total for country	6174.79	101949.5	221297.5

Structure of the presentation

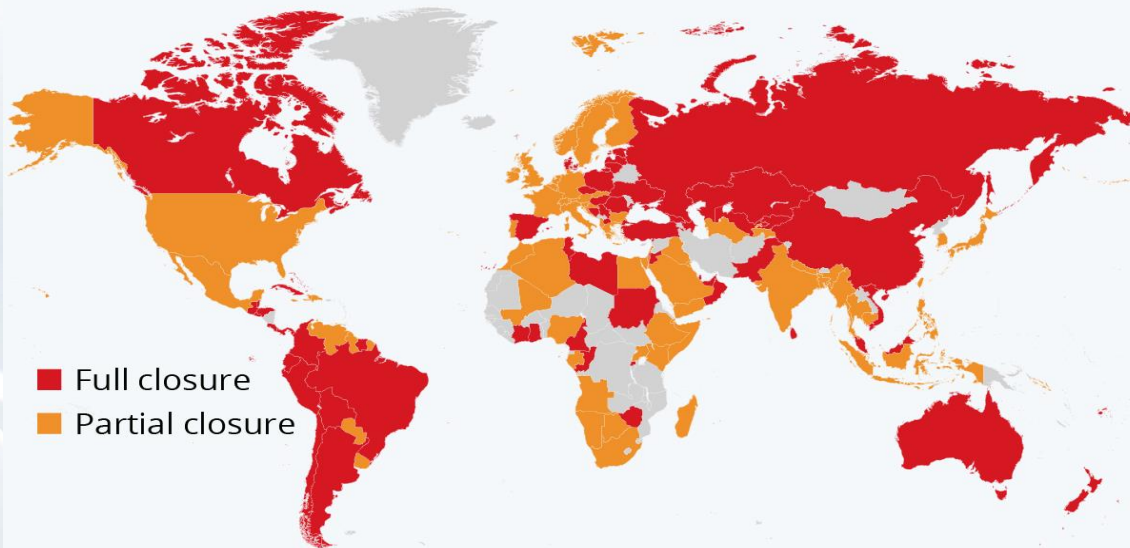
- Government responses to COVID-19
- Effect of these responses on food systems
- Impacts on food waste
 - Border closures
 - Disruptions in air traffic
 - Lockdowns - Restrictions on sale of certain products/ opening of restaurants, bars etc.
 - Plant closures
 - Curfews
- Impact on Municipal Solid Waste
- Conclusions



Border closures

The Status Of Global COVID-19 Border Closures

Countries that have closed borders to noncitizens and nonresidents (as of March 31, 2020)



Source: Pew Research Center



statista

Border closure & food systems

- Purpose of the restriction it to reduce movement of people and limit spread of the virus
- Effects on the food system is more complex
 - Delays in distribution systems due to checks on permits etc.
 - High reliance on migrant and seasonal workers in Europe and USA
 - Staff shortages on farms and in some food processing factories reported in Europe and the USA
 - Imported raw material supply was disrupted including seed, fertilisers, packaging materials, mechanical parts etc.
 - Transnet Port Terminals reduced its berthing capacity by 30% resulting in backlogs. It could take a ship up to 25 days to load its cargo in two or three South African harbours
 - Not enough shipping containers is coming back into the system via imports
 - Bees starved to death when a truck with beehives was not allowed to travel across regions to provide pollination services as scheduled impacting on future yields

Border closure & food systems

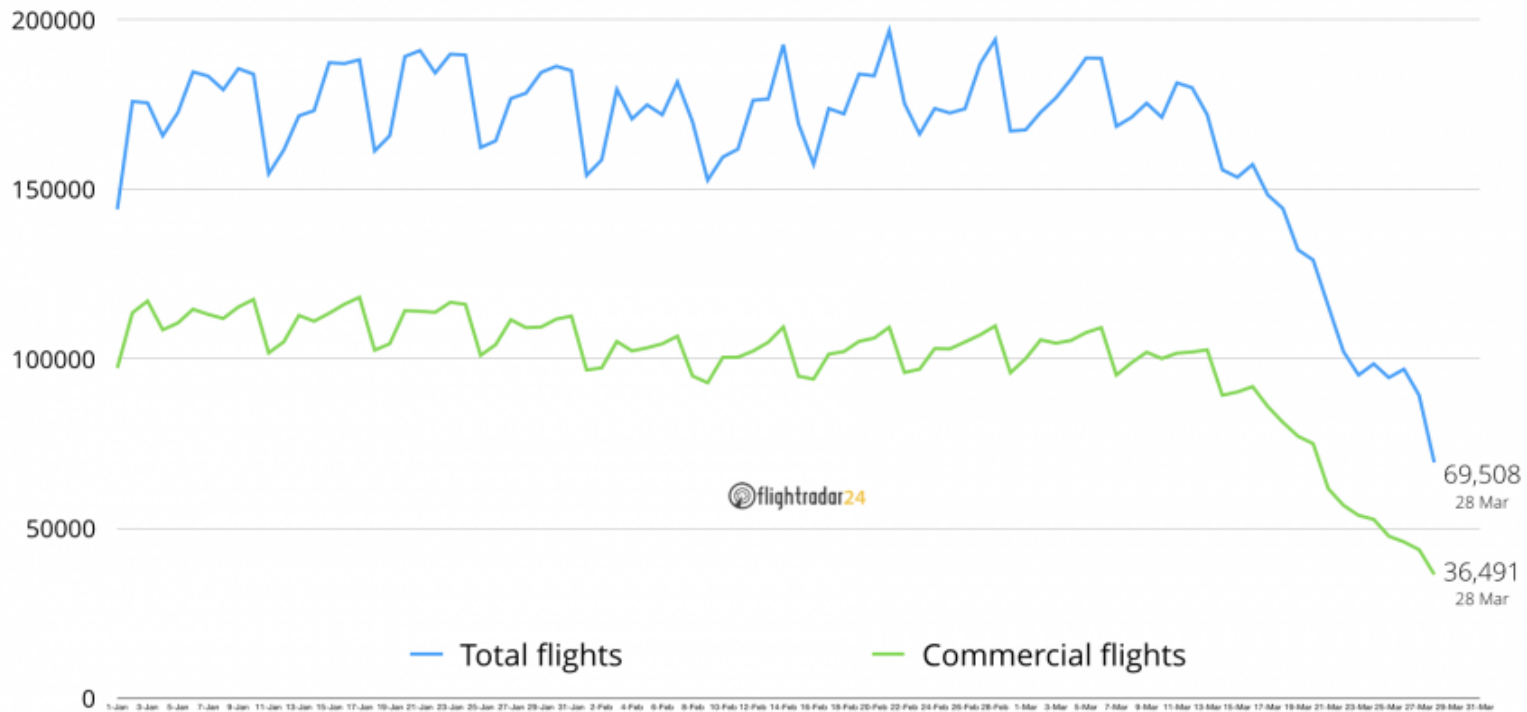


- Effect on food waste globally
 - Delayed harvesting or no harvesting at all left millions of tonnes of crops to rot in the field in USA, Israel and Europe
 - Shortage in feed for animals resulted in animals and poultry starving to death in China
- Effects on food waste in South Africa
 - Inefficiencies in the movement of food produce is likely to increase food losses along the distribution chains
 - Citrus exports to Asia is impacted negatively by the container issue at ports.

Disruption in air traffic



Flightradar24 Daily Tracking Statistics
2020 Commercial and Total Flights Tracked



Disruption in air traffic

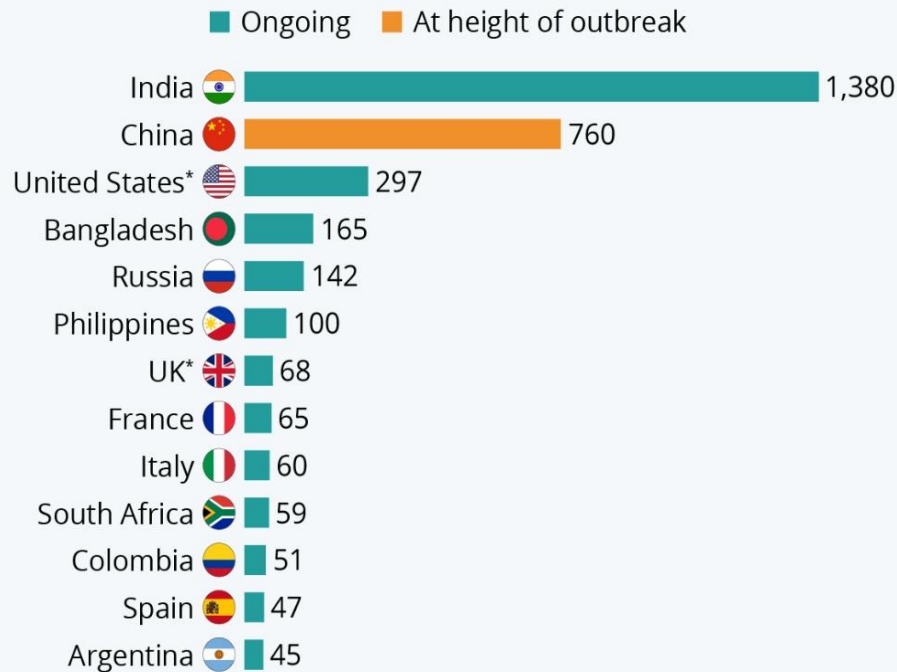


- Purpose: To limit or ban movement of people
- Effects on the food system
 - Passenger flights also carry food in their cargo space
 - Highly perishable products for example strawberries
 - Products that needs to be in the market at a specific time for example first product of the season
 - Cost of air freight has increased from \$1.80/kg to \$3.00/kg in a matter of weeks
 - Increased cost combined with weakening of the Rand left food export and import close to unviable
- Effect on food waste globally
 - Products are not reaching retail outlets as per normal
 - No serious wastage has been observed in South Africa

Lockdowns

The Size of Coronavirus Lockdowns

Number of people placed on enforced lockdown due to the coronavirus pandemic, per country (in million people)



* At least partly enforced
Source: Media reports

In three months, one third
of humanity was under
COVID-19 Lockdown

3 239 million people

23 April 2020

<https://www.statista.com/chart/21240/enforced-covid-19-lockdowns-by-people-affected-per-country/>

Lockdown impacts on food



- Agriculture has been identified a critical industry and exempted from the harshest lockdown regulations in South Africa
- Food production value chains remain operational albeit not at optimal levels leading to bottlenecks and blockages resulting in product losses
- Closure of most extra-domestic food establishments including:
 - School canteens and kitchens including feeding schemes
 - Restaurants,
 - Fast food outlets
 - Bars and hotels
- Restaurants had food in refrigerators that could not be sold and consumed
- Shift in consumption channels – eating every meal at home
- Fast food chains are the biggest purchasers of broilers
- Farmers are forced to keep chickens without an option to sell

Lockdown and the food sector



Impact on meat sales

- With restaurants closed, demand for high-end meat cuts dwindled
- Feedlots are not buying cattle and throughput at abattoirs are down
- Farmers are forced to keep sale-ready animals back
- Decline in sales of less essential and preventative medicines by farmers

Impact on other produce

- Farmers and processors cannot easily shift between markets – surplus occurred in potatoes, dairy, fresh produce
- Out of household products are sold in batch sizes not meeting supermarket criteria
- Production lines are not able to instantly change package sizes
- Export is not possible due to the global nature of the pandemic and limitations on transport
- Dairy farmers in the US, and UK dumped milk when demands in schools and restaurants dropped.

Lockdown and the food sector

Impacts on drink sector in South Africa

- Ban on alcohol sales and transport of alcoholic beverages
- Breweries reached capacity with more than 130 million litres of beer and no market to sell into
- Distell is anticipating a 300 million-litre surplus of wine this season
- Decrease in demand for high-end wines usually sold in restaurants
- Large wine cellars are cancelling their delivery contracts with wine grape growers for 2021

The screenshot shows a web browser displaying a news article on the Farmer's Weekly website. The article title is "Wine cellars cancel 2021 grape purchases due to liquor ban" by Denene Erasmus, dated July 24, 2020. The main image shows hands harvesting green grapes. To the right, there are COVID-19 precaution tips: "STAY HOME", "WASH HANDS", and "CLEAN SURFACES". The website header includes the "farmer's weekly" logo and the slogan "PROTECT FOR BETTER GROWTH". The browser's address bar shows the URL: farmersweekly.co.za/agri-news/south-africa/wine-cellars-cancel-2021-grape-purchases-due-to-liquor-ban/.

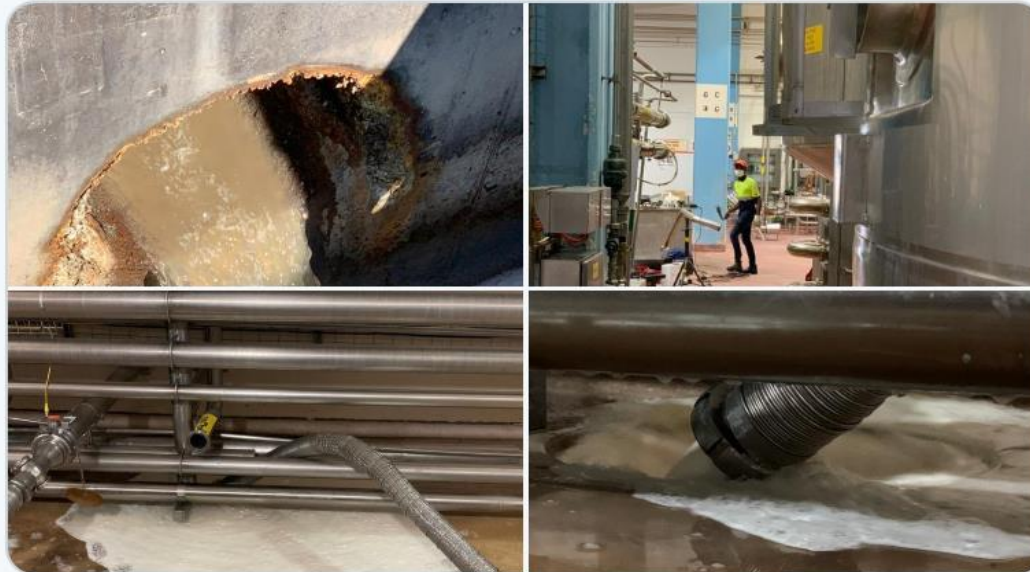
Lockdown and the food sector



Vumani Mkhize
@VumaniMkhize



Beer drinkers look away now. SAB has begun dumping beer. 25 thousand litres went down the drain in PTA today. Unable to sell or move current stock, SAB could dump over 130 million litres.



3:49 PM · May 8, 2020



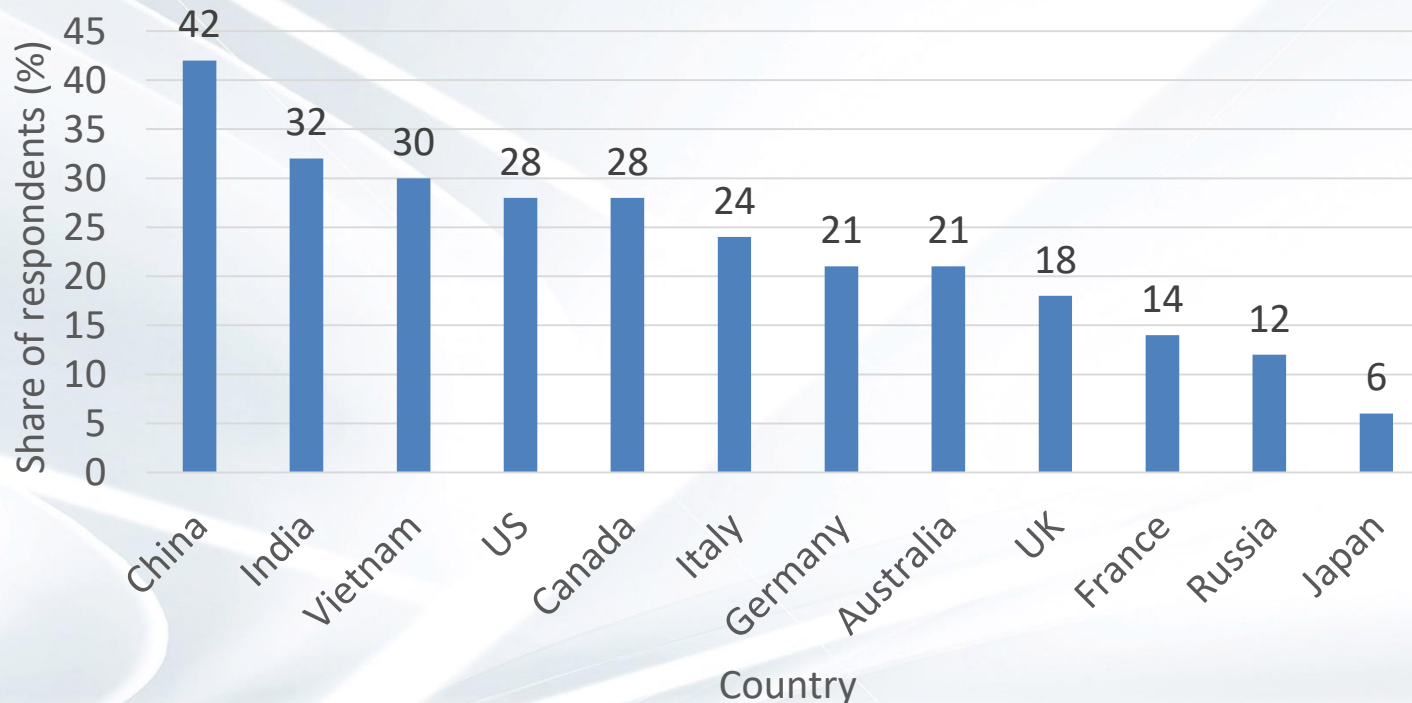
1K



1.1K people are Tweeting about this

Panic buying

Share of consumers that stockpiled food because of COVID-19 in March 2020 by country



US reported a 12.4% year on year growth in food and beverage store sales (June 2020 vs 2019)

Panic buying

- Consumer packaged goods demand soared by:
 - 10.9% in Italy
 - 8.2% in the UK
 - 9.5% in the US
- Goods being stockpiled by country are:
 - UK - frozen and packaged food
 - Germany – pantry items such as rice and flour as well as disinfecting products
 - Russia – cereals and canned food as well as masks
 - South Korea – canned foods
 - Australia – pasta, eggs and canned meals
 - South Africa – maize meal, flour, canned food and toilet paper (own observation)
- A second surge of panic buying is expected with a second wave of infections
- The Spanish flu came in three waves from 1918-1920

Lockdown impacts

- 80% of respondents in Tunisia reported changed grocery shopping habits during lockdown
- Increase in online demand – up to 80%
- Increase in food donations to the less fortunate
- The short window between the initial outbreak and lockdown led to:
 - Inaccurate demand forecasting
 - Higher efficiencies in delivery of food to citizens
- Many small scale producers and retailers were forced to dispose of stock and a subsequent impact on food loss and waste.
- Lockdown caused a change in eating habits, food preferences and behavior (Spanish case study)
 - Stockpiling of non-perishable food
 - Eating more indulgent and comfort food
 - Drinking more wine, beer and other spirits
 - Snacks throughout the day
 - 6-8% decrease in nutritional content of food consumed

Lockdown impact on household food loss and waste

- Households were more aware of their wastage during lockdown
- Higher demand for leftovers in the household during lockdown
- Food stockpiling may lead to increased waste in the longer term
- Failed cooking and baking experiments may have resulted in increased wastage
- 12% increase in household food waste in Spain during COVID-19
- 93% of respondents in Tunisia reported that lockdown impacted their household waste levels

Plant and shop closures

- Ensuring worker safety through social distancing while ensuring food safety resulted in processing plants not running at full capacity
 - Reduced staff numbers per shift
 - Reduced working hours during lockdown
 - Slower throughput may result in increased losses and waste
- Plant closures for deep cleansing was reported in South Africa
 - Fish processors I&J and Sea Harvest
 - Rhodes food group in Tulbagh closed for four days
 - Tiger Brands bakery in Durban
- Closure of US meat processing plants led to millions of chickens, pigs and cattle being slaughtered, but not processed for food
 - 25% of US meat processing plants were closed in two weeks in April
 - 700 000 pigs were euthanized weekly
- South African supermarket chains all had to shut stores for deep cleansing

Curfews

- Several countries introduced curfews
 - South Africa of 20:00 - 05:00
 - Uganda 21:00 - 05:30
 - India 21:00 - 05:00
 - Bahamas 21:00 - 05:00
 - Saudi-Arabia 20:00 – 06:00
 - Zimbabwe 18:00-06:00
 - Etc
- Impacts on food system
 - Movement of workers in the sector are restricted to within these times
 - Transport of goods are pushed to day time hours resulting in
 - Increased traffic
 - Delayed deliveries to markets
 - Potential disruptions in cold chain
 - Shorter retail hours

Conclusions

- COVID-19 have caused:
 - Additional food waste throughout the food value chain
 - Surplus food in certain sectors especially potatoes, dairy, fresh produce and even eggs earmarked for fast food industry and restaurants
- Highlighted the need for:
 - decentralized supply chains, including small producers
 - flexible food distribution systems
 - Adaptability to rapid changes in demand and consumption channels
- Interconnected supply chains as highlighted by the closure of restaurants, fast food outlets, bars, school canteens etc.
- Highlighted the weakness of current consumption habits
- Difficulty to access fresh food in small street markets, including informal trade
- The effect of COVID-19 will continue into the future

References

- Aldaco R, et al. (2020) Food waste management during the COVID-19 outbreak: a holistic climate, economic and nutritional approach. *Science of the Total Environment* 742: 14025 DOI.org?10.1016/j.scitotenv.140524
- Farmesweekly <https://www.farmersweekly.co.za/agri-news/south-africa/wine-cellars-cancel-2021-grape-purchases-due-to-liquor-ban/>
- Fleetwood, J. (2020) Social Justice, Food Loss, and the Sustainable Development Goals in the Era of COVID-19. *Sustainability* 12: 5027; doi:10.3390/su12125027
- Hailu G. (2020) Economic thoughts on COVID-19 for Canadian food processors. *Cand J Agr Econ.* 2020;68:163–169. DOI: 10.1111/cjag.12241. <https://onlinelibrary.wiley.com/doi/epdf/10.1111/cjag.12241>
- Jribi S, Ismail HB, Doggui D and Debbabi H. 2020 COVID-19 virus outbreak lockdown: What impacts on household food wastage? *Environment, Development and Sustainability* 22: 3939-3955. doi.org/10.1007/s10668-020-00740-y
- Langhout L (2020) the Impact COVID-19 has on food waste <https://www.strategyand.pwc.com/de/de/implications-of-covid-19/the-impact-covid19-has-on-food-waste.html>
- Oberem P 2020 The impact of COVID-19 on South Africa’s agriculture economy. Bizcommunity <https://www.bizcommunity.com/PDF/PDF.aspx?l=196&c=741&ct=1&ci=204552>
- Pitt, D. Healthy Pigs Being Killed Daily as Meatpacking Backlog Hits Hog Farms. <https://apnews.com/56df9f1cd2686b67750b653fa2462bb0>
- WC Dept of Agriculture 2020 Impact of COVID-19 on Agriculture and food in the Western Cape. Working Document (Version 2) <https://www.hortgro.co.za/wp-content/uploads/docs/2020/03/agricultural-scenariosc.pdf>
- Zhang X. Chinese livestock farms struggle under COVID-19 restrictions. 26 March 2020 IFPRI Blog. <https://www.ifpri.org/blog/chinese-livestock-farms-struggle-under-covid-19-restrictions>



Thank you

Suzan Oelofse
soelofse@csir.co.za