



ASSIGNMENTS AND RESOURCES



SUSTAINABLE AGRICULTURE

WE ALL HAVE PROBLEMS WITH FOOD...

"Nature does not hurry, yet everything is accomplished."

- Lao Tzu

SUSTAINABLE AGRICULTURE

THE CURRENT PROBLEMS

Global food production puts huge pressure on our environment:

- The production of food is responsible for 70% of water extracted from nature and 60% of biodiversity loss due to loss of habitat.
- Farming generates one third of human greenhouse gas emissions.
- Modern food production is contributing to climate change, which in turn has come to threaten food security.

At the same time:

- Over 800 million go hungry. *(70% of whom live in rural areas in developing countries)*
- 2 billion suffer poor nutrition. *(malnutrition, stunting, obesity)*
- Globally farming families live with poverty and the youth are leaving the countryside for the cities.

Source: www.resourcepanel.org/reports/food-systems-and-natural-resources



It does seem our food system is not fit for purpose and is a major player in the climate crisis, what can be done? A radical change of the food system?



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developmenteducation.ie
selfhelpafrica.org/ie/education



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OPENING QUESTIONS

Discuss the idea of systems, food and wealth with these open questions.

Q: What is a system?

To make meaningful change, moving towards sustainability and to protect biodiversity we need to prioritise long term gains on a planetary scale, to the benefit of future generations. It can seem very daunting, but actually it is well within our abilities as we created the systems that need the rethink.

Brainstorm different systems

EDUCATION

ECONOMIC

TRANSPORT

ELECTRICAL

INTERNET

POLITICAL

TRADE

Let's flip the idea of; poverty, wealth and vulnerability

Q: What is the purpose of food?

Q: What are examples to 'good' food?

Q: What are examples of 'bad' food?

Q: Do you agree that 'your health is your wealth'?

Q: If so what are examples of true poverty, wealth and vulnerability with regards to food?



Urban 'food deserts'.

US communities plagued by junk food.

In developed countries and urban centres, the poorest communities have the least access to healthy food options, while being surrounded by 'junk' (processed) options.



Easily disrupted long supply chains.

Ireland's bread shelves during the snows of storm Etna.

Long supply chains for 'essentials' can lead to vulnerability due to disruptions.

Q: What do we need to enjoy a healthy and sustainable meal?

Resources - food (local), money, fuel, equipment to prepare.

Skills of how to prepare, access to produce, transport.

Knowledge to inform our choices of what to buy and what is healthy

Q: What do we need to enjoy an unhealthy and unsustainable meal? Very little!

Q: What are examples of true poverty, wealth and vulnerability with regards to food?

ACTIVITY

Write out a shopping list for a healthy but substantial meal. Then you are allowed a dessert too!

Now go down the list. Where in the world did all the ingredients come from? If you can't use a car how would you get this meal? If you could only eat from your nearest shop/food outlet what meal could you have?

If you only ate Irish produce what would you be left with?

FOOD SECURITY DISCUSSION POINTS

- How do long supply chains leave us vulnerable to food shortages?
- **Discuss: that less than 3% of Ireland's agricultural land produces fruit and vegetables.**

The EU average being 12.4% of agricultural land and the highest being Romania at 22%.

- **Food security is based on: availability, affordability and use (knowledge). What/when are examples of people in Ireland being 'food insecure'?**
- **Less than 1% of Irish farms have orchards compared to an EU average of 14.6%.**

Would you like to enjoy more Irish fruit? Which types of fruit grow here?

Article sources stats from an Eurostat report in 2016

www.agriland.ie/farming-news/only-1-of-irish-farms-grow-vegetables-the-lowest-in-the-eu/

CONTRAST THE IMAGES ON THE PREVIOUS PAGE WITH THESE OF AFRICAN COMMUNITIES BUYING/SELLING THEIR OWN PRODUCE.



WATCH AND DISCUSS

Q: What are the challenges and obstacles faced by communities that rely solely on the food they produce?

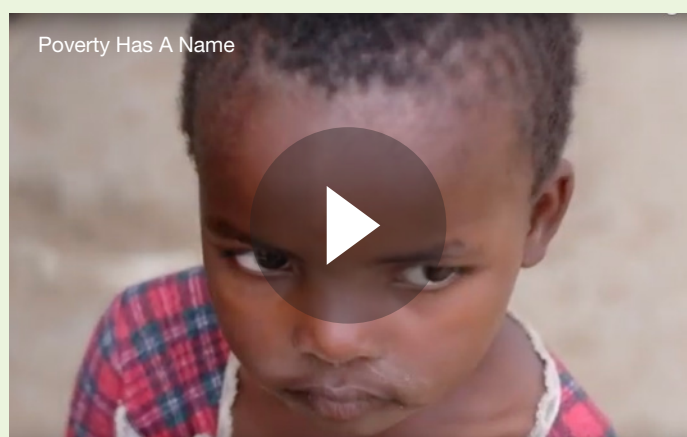
Q: What do you think can be meant by 'hungry periods'?

Q: How do you think the young people of these communities feel?

As well as these health and access issues, our current food system is extremely wasteful. Globally as much as 50% of agricultural production is wasted. In Ireland a third of the food bought is wasted.

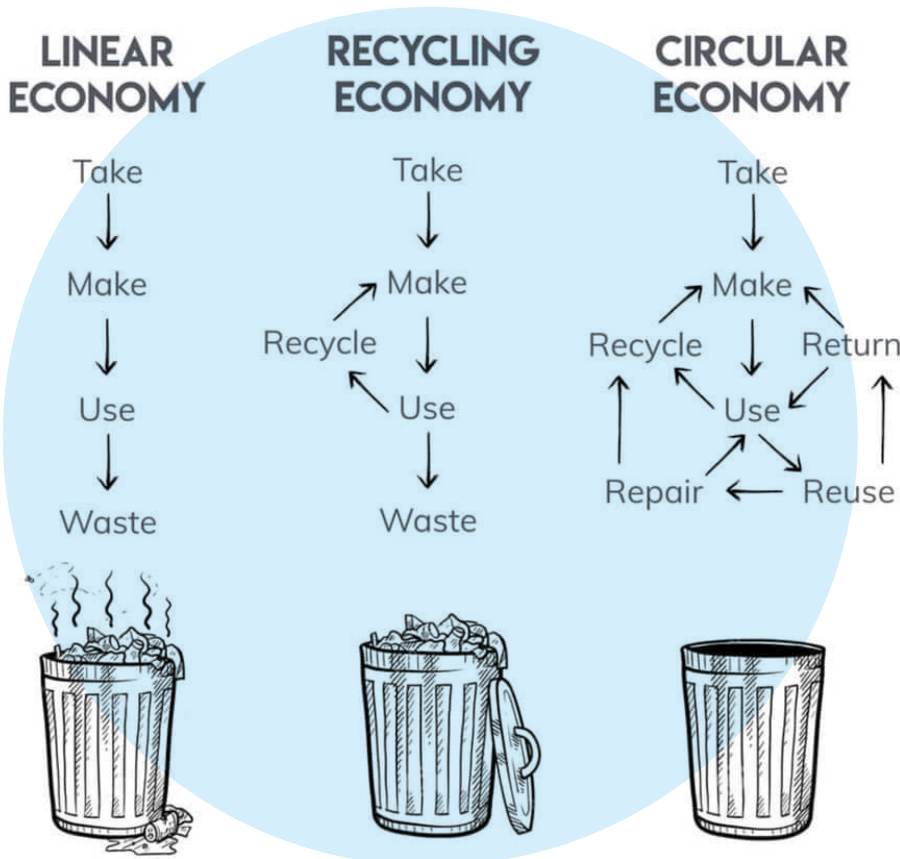
That is one in every three shopping bags!

Links: www.stopfoodwaste.ie and www.food.cloud



MOVING FROM LINEAR WAYS OF THINKING TO CIRCULAR ONES

Current systems, economies, societies and product designs are largely linear processes.



Q: Can you think of any animal, plant or natural system that creates toxic, nonbiodegradable waste?

Can be interesting to discuss; earthquakes, forest fires, volcanic eruptions.

REDUCE & REFUSE

Before even the 'take' stage we have the options to reduce and refuse, eg; reduce our consumption; don't replace petrol cars with electric ones but by public transport. Refuse products covered in single use wrapping/containers.

ARGUE

Solutions are found by redesigning systems. Rethinking, innovating and changing. However, change is often not always easy or universally popular.

Change is not to be feared, change is natural and inevitable.

"For every complex problem, there is a solution that is simple, neat, and wrong."
— H. L. Mencken

"We live in capitalism, its power seems inescapable – but then, so did the divine right of kings. Any human power can be resisted and changed by human beings. Resistance and change often begin in art. Very often in our art, the art of words."

— Ursula K. Le Guin



EXPLORE THE IDEA OF 'MEANINGFUL WORK' AND 'ESSENTIAL WORKER'

- Who do we need three times a day every day?
- Who in the class plans to be a farmer or a food producer?
- How do we make a career in agriculture attractive and cool?

FLIP THE IDEA OF A 'FARMER' IN IRELAND



The trends in EU farming are fewer farms and fewer farmers, older and older farmers and under one third of farm managers/owners are female.

STATISTICS

Around **9.7 million** employed in agriculture in the EU

2016 FIGURES FROM THE CENTRAL STATISTICS OFFICE (IRE):

5% of Irish farms owned by people under 35yrs old (EU average 12%)

30% of Irish farms owned by farmers over 65yrs old.

EU average of female managers **29%** (Eurostat) Ireland is around **11%**,

The Netherlands only **5%**.

Sources: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Farmers_and_the_agricultural_labour_force_-_statistics#Farms_managers_are_typically_male_and_relatively_old

<https://www.cso.ie/en/releasesandpublications/ep/p-syi/psyi2018/agri/farmsandfarmers/>

FLIP THE IDEA OF A 'FARMER' IN AFRICA



Across Africa the majority of farm labour is done by hand and by women. Children are commonly involved instead of going to school. School attending children are often taken away to help during busy periods. All very similar to Ireland's recent past before education and economic levels improved.



THE FEMALE FACE OF FARMING

Source: www.farmingfirst.org/women_infographic/



75% of the 250m tons of crops grown in Sub-Saharan Africa are on smallholder farms



75% of those farms are weeded by hand



50-70% of total labour time is spent on this handweeding



90% of this handweeding is done by women



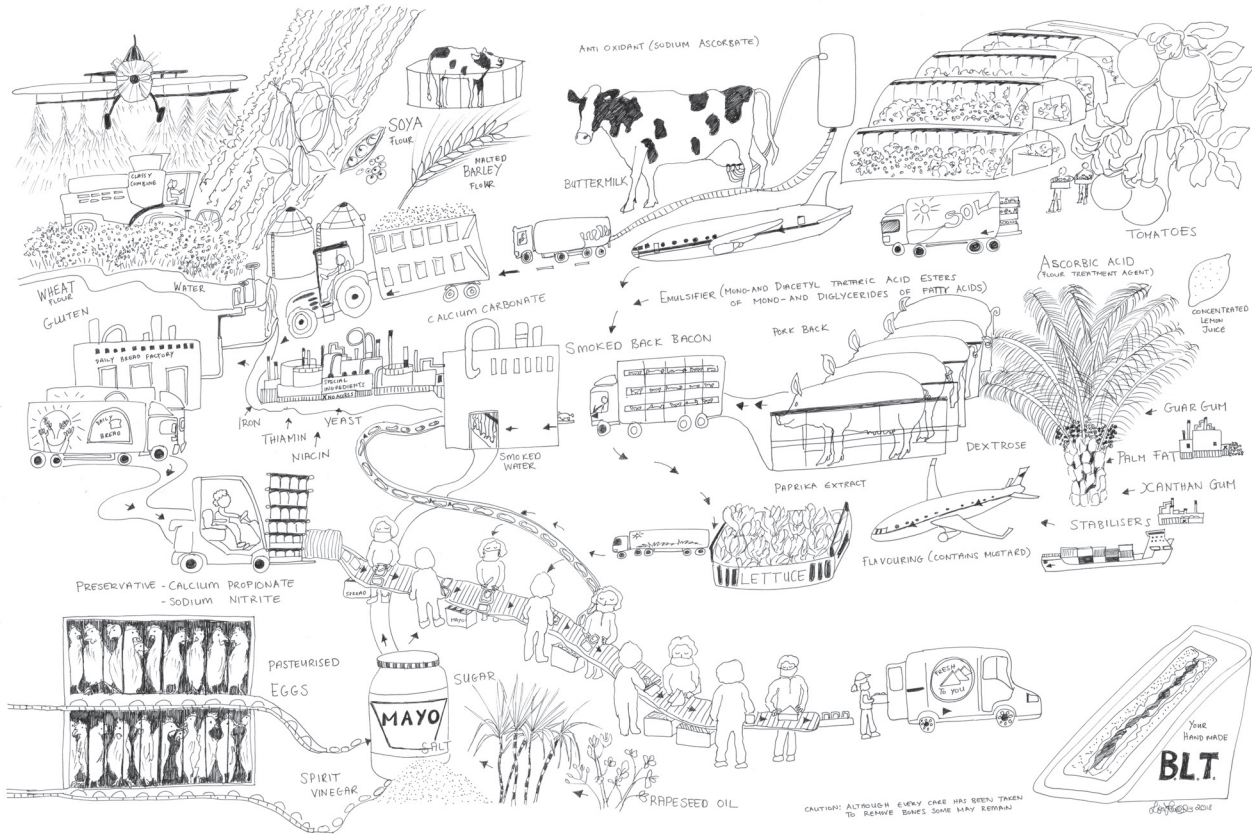
70% of farm children between the ages of 5 and 14 are forced to leave school and work in the agricultural sector at the peak period of weeding

THE SANDWICH PROJECT

Lisa Fingleton -

Irish Artist and food grower; <https://lisafingleton.com/>

The story/journey/inputs that go into a garage bought BLT sandwich



Questions posed by the artist Lisa Fingleton:

- Think of your favourite sandwich...
- How far does your sandwich travel before it reaches you?
- How many ingredients make up your average sandwich?
- How much of your sandwich is made up of 'real food' and how much of it is manufactured ingredients, made to taste like 'real food'?
- How many planes, boats and trucks are involved?
- How many women, men and children are involved in picking vegetables and minding animals around the world?
- What conditions do the animals live in?
- Is there really such a thing as 'cheap food'?

What are the alternatives?

It is evident that this type of sandwich, wrapped in plastic, sold at a petrol station symbolises much that is unsustainable, polluting, wasteful and unhealthy with the current food system. So what else can we consider?

BACON, LETTUCE & TOMATO

Cooked smoked back bacon with tomato, lettuce & mayonnaise on malted wheat bread.

INGREDIENTS: Malted Wheat Bread [Wheat Flour (**Wheat Flour**, Calcium Carbonate, Iron, Niacin, Thiamin), Water, Wholemeal **Wheat Flour**, Malted **Wheat**, **Wheat** Gluten, Yeast, Salt, Malted **Barley Flour**, **Soya Flour**, Emulsifier (Mono- and Diacetyl Tartaric Acid Esters of Mono- and Diglycerides of Fatty Acids), Dextrose, Preservative (Calcium Propionate), Palm Fat, Rapeseed Oil, Flour Treatment Agent (Ascorbic Acid)], Cooked Smoked Back Bacon (22%) [Pork Back, Salt, Smoked Water, Antioxidant (Sodium Ascorbate), Preservative (Sodium Nitrite)], Tomato (15%), Lettuce (11%), Mayonnaise [Rapeseed Oil, Water, Pasteurised **Egg**, Spirit Vinegar, Pasteurised **Egg** Yolk, Sugar, Salt, Dextrose, Stabilisers (Guar Gum, Xanthan Gum), Concentrated Lemon Juice, Flavouring (contains **Mustard**), Paprika Extract].

ALLERGY ADVICE: For allergens, including cereals containing gluten, see ingredients in **bold**.

CAUTION: Although every care has been taken to remove bones some may remain.

STORAGE: **Keep refrigerated.** Not suitable for home freezing. Use by: see front of pack. Once opened, consume immediately.

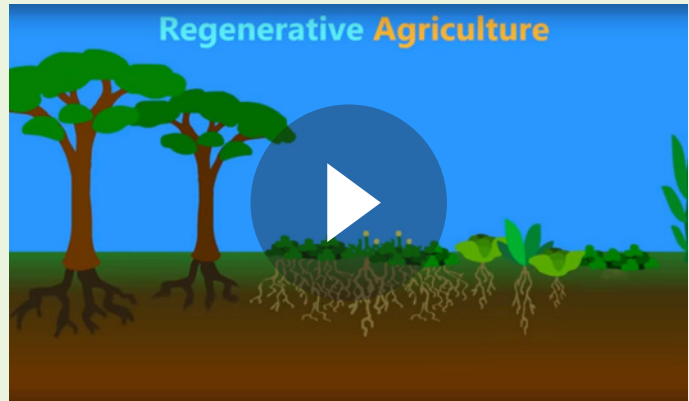
No artificial flavours or colours.

WHAT IS REGENERATIVE AGRICULTURE?

WATCH; a 4min introduction to this alternative food system.

Questions to consider from the the video:

- Why does going organic not solve all the present problems?
- Biodiversity vs monoculture, discuss.
- Grazing animals can actually be a valuable part of the carbon storing (sequestration) process. How?
- Agro-forestry, imagine how Ireland would look if covered in 'food forests'?
- What sort of relationship with the land do you want to foster?



DISCUSS

What are the main issues or objections you can think of that will stop current farming practices in Ireland changing to regenerative ones?

COULD IRELAND STOP PLOUGHING/TILLING?



A definition of regenerative agriculture:

"If regenerative means: 'renewal, restoration, and growth of cells, organisms, and ecosystems,' or 'renewal or restoration of a body, bodily part, or biological system (as in a forest) after injury or as a normal process,' then regenerative agriculture is agriculture that is doing just that."

<https://www.climaterealityproject.org/blog/what-regenerative-agriculture>

ARE IRISH FARMERS OPEN TO, OR ABLE, TO CHANGE? (Of course they are)

FARMING FOR NATURE AMBASSADORS 2021 - AN OVERVIEW

A two minute intro' to Irish farmers
looking to innovate and benefit nature.

farmingfornature.ie



DISCUSS

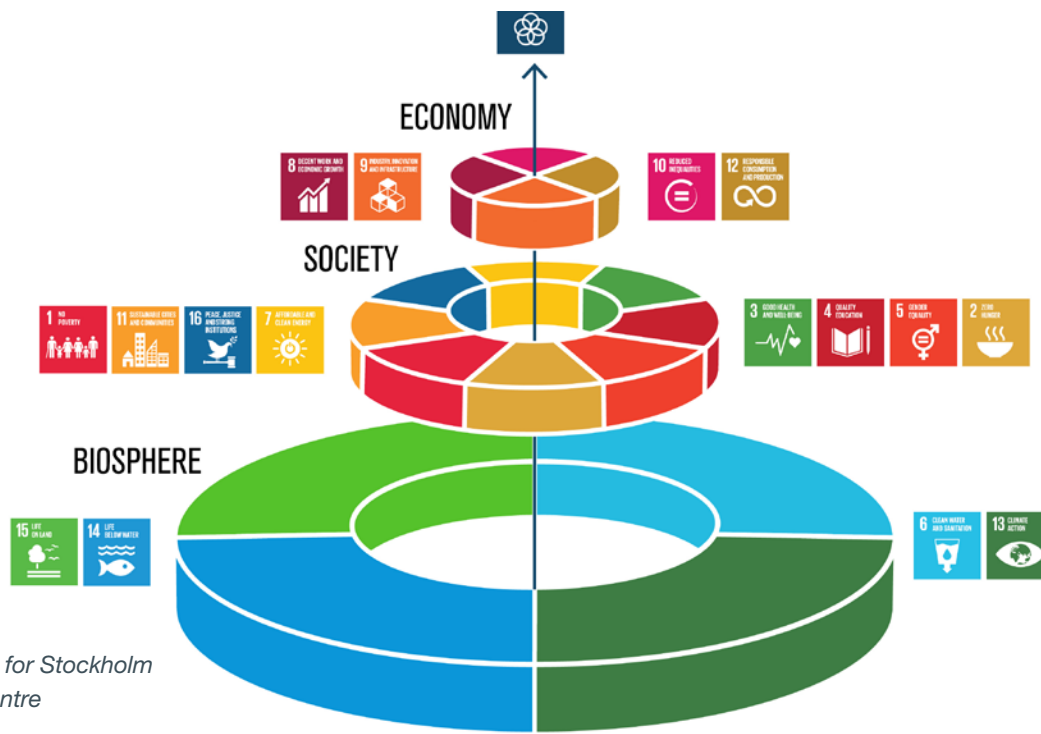
What, for you, is the stand out statement from one of the farmers?

What, do you think, does the lady farmer mean by “not changing the farm into something it isn’t”?

A FRESH LOOK AT THE UN GLOBAL GOALS

Lets look at the SDG's through the lens of regenerative, circular, no waste systems rather than the current linear 'take make' system.





Azote images for Stockholm Resilience Centre

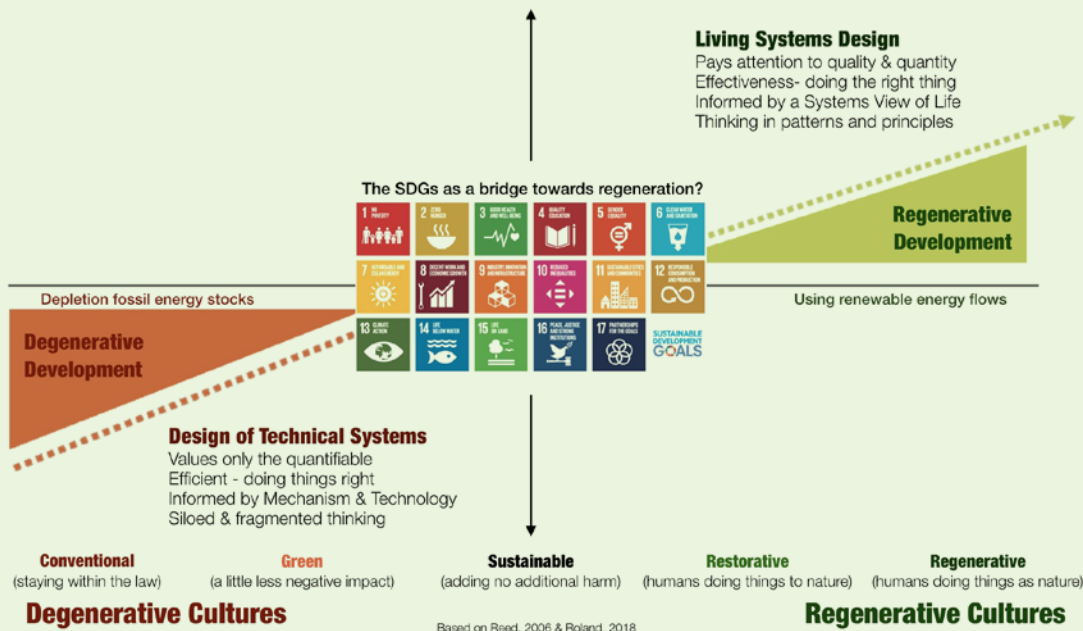
Discuss the above depiction of the SDG's. What questions does it raise?

The size of the ring indicates the level of priority of focus and importance, note that economic considerations must come last, after protection and improvement of the biosphere, after equal and just provision of society's needs, which 'leaves no one behind'. Only then responsible and no-waste industry and consumption can be innovated, which provides meaningful work. Finally and crucially Goal 17, partnership, holds everything together.

It possibly could be depicted as an outer ring securing everything else together.

Delving a little deeper, consider this graph showing how the Global Goals act as a bridge from where we are now; conventional, industrial, linear practices, through sustainable improvements towards realising regenerative practices, economies and societies.

Beyond Sustainability: Designing Regenerative Cultures



DISCUSS

Can you see now how radical regenerative practices are? Are they achievable?

Think back to other systems you brainstormed earlier, what would they look like with regenerative designing? Or indeed, consider any of the Global Goals with regenerative design.