



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

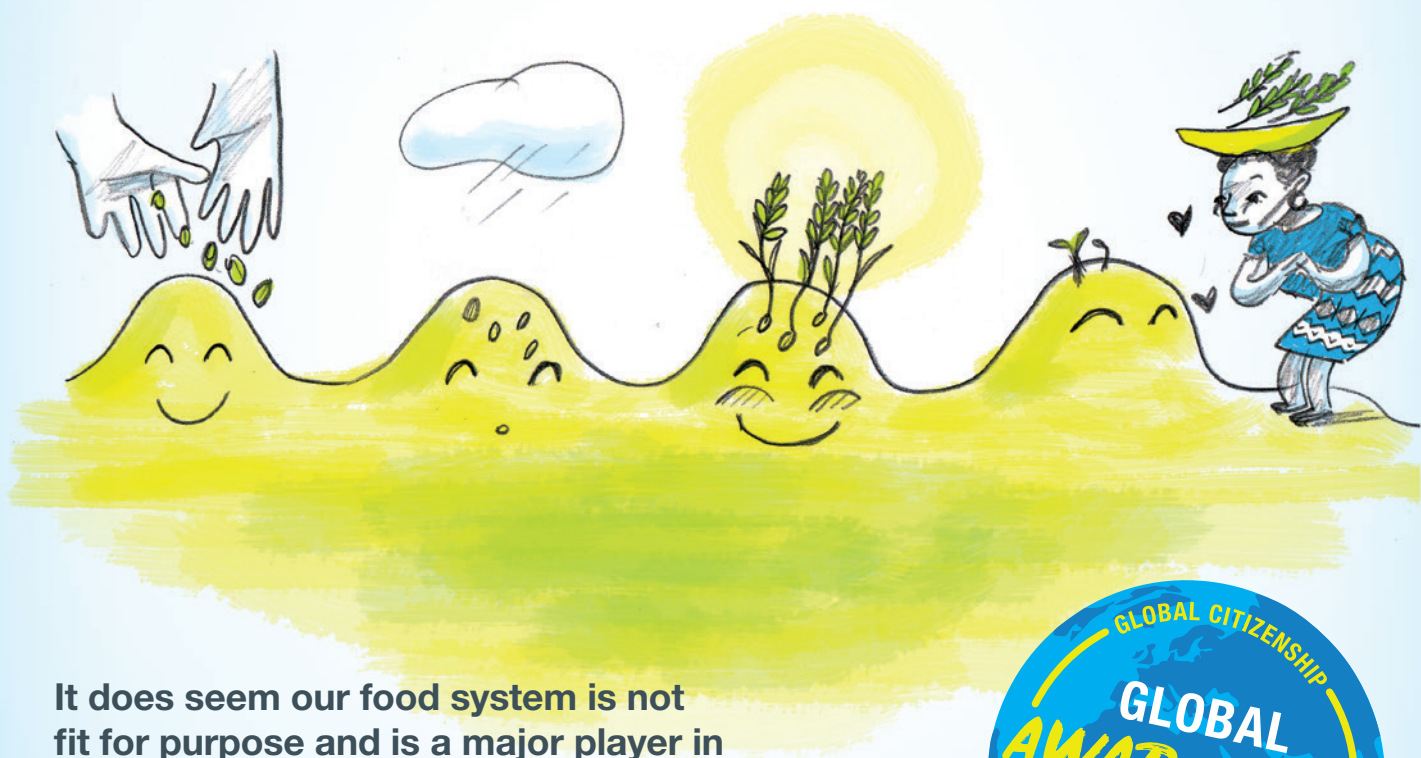
Global food production puts huge pressure on our environment:

- 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 to the food system?



EXERCISES

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.

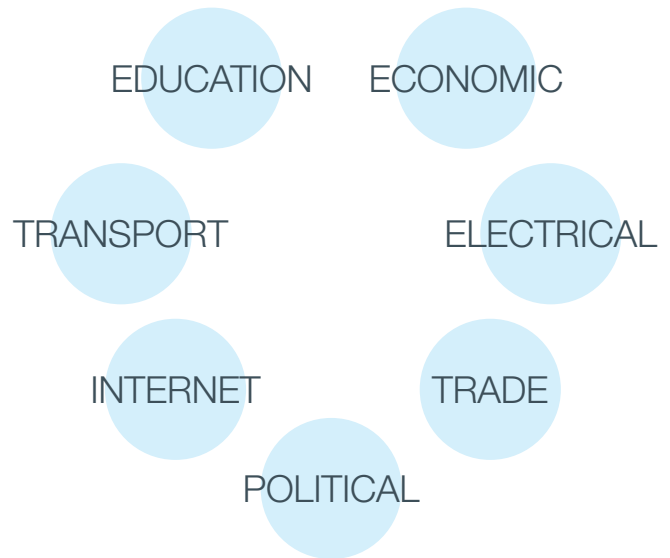
So let's get to work, let's consider the small matter of food...

Flip the idea of; poverty, wealth and vulnerability

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?

BRAINSTORM DIFFERENT SYSTEMS



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

ACTIVITY

Ask students to make their own list of what they need to enjoy a healthy and sustainable meal, use prompts above if necessary.

Now check each item on their list and brainstorm possible obstacles/solutions eg if you do not have a car, can only use your nearest shop/ food outlet. Where have the ingredients come from? What would change if the supply chain was disrupted and only Irish produce was available?

THE FACTS TO DISCUSS

- Expose our vulnerability to food shortages due to long supply chains.
- 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%.
- With regards to fruit production, it was revealed that less than 1% of Irish farms had orchards compared to an EU average of 14.6%.

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/

CONTRASTING IMAGES OF FAMILIES/COMMUNITIES WITH THEIR OWN PRODUCE



Zambia 2014



Zambia 2014



Zambia 2014

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'?

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

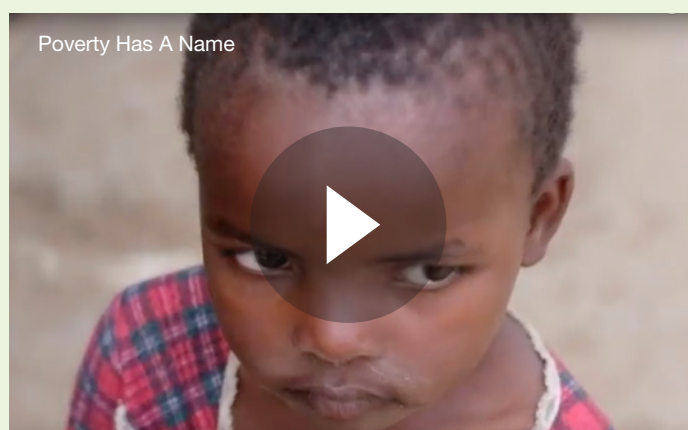
That is one in every three shopping bags!

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

That is one in every three shopping bags!

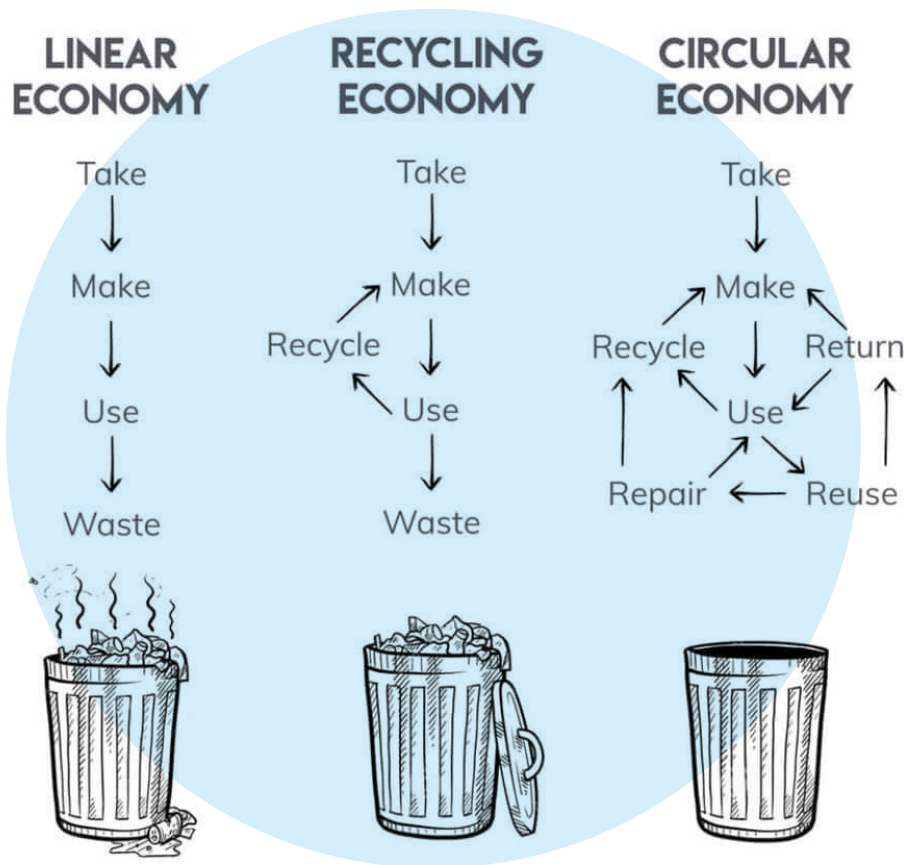
Q: Can you think of any other animal, plant or natural system that creates toxic, nonbiodegradable waste?

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



MOVING FROM LINEAR WAYS OF THINKING TO CIRCULAR ONES

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



**Note 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 with single use plastics.*

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.

Think; progress, development, evolution, lifelong learning, self realisation, transformation, higher consciousness.

"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.

Think; progress, development, evolution, lifelong learning, self realisation, transformation, higher consciousness.

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



Ethiopia



Uganda



Zambia



Eritrea



Malawi



Eritrea



Zambia



Malawi



Burkina Faso

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.

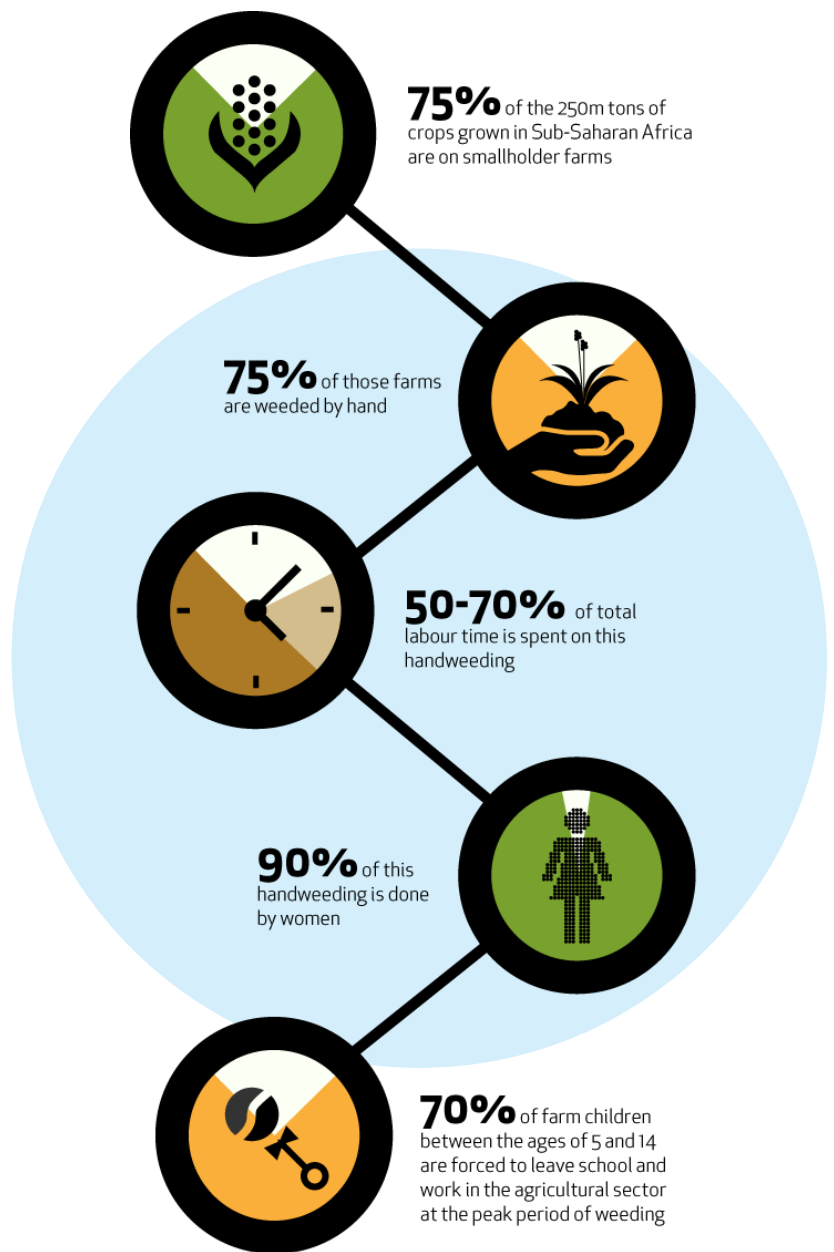


Single mum becomes businesswoman

I'm selling it to a co-op who will mill it into flour.

THE FEMALE FACE OF FARMING

Source: www.farmingfirst.org/women_infographic/



THE SANDWICH PROJECT

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

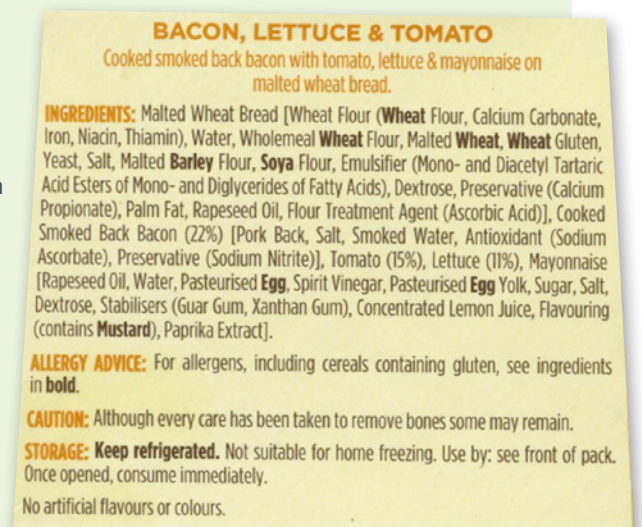
The story/journey/inputs that go
into a garage bought BLT sandwich

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?

So if we are to rethink, innovate, change, what can we consider?

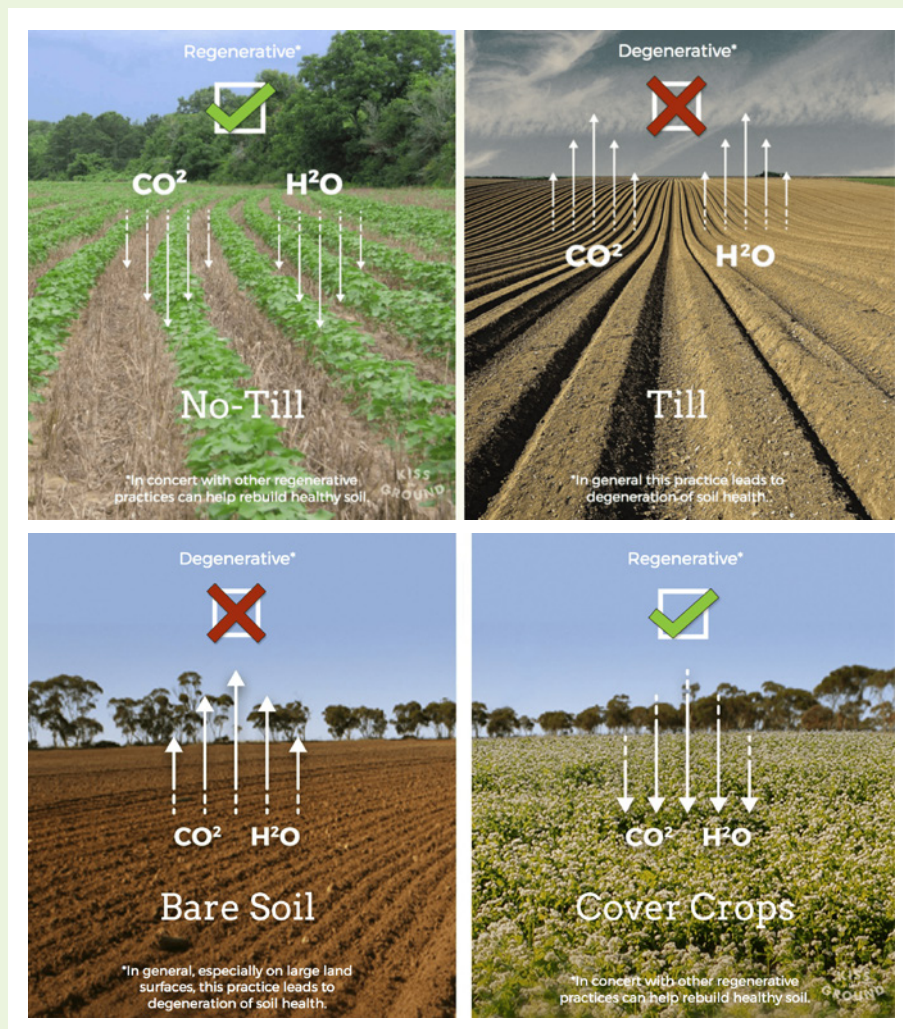
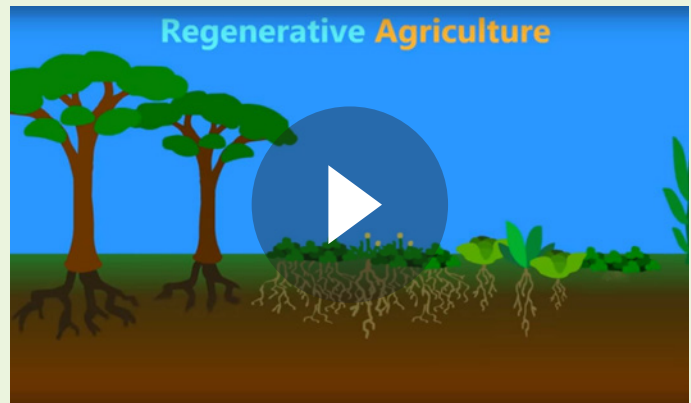


WHAT IS REGENERATIVE AGRICULTURE?

This short 4min very succinct introduction to regenerative agriculture.

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?
- What are the main issues or obstacles you can see to transitioning from current farming practices in Ireland to regenerative ones?



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.

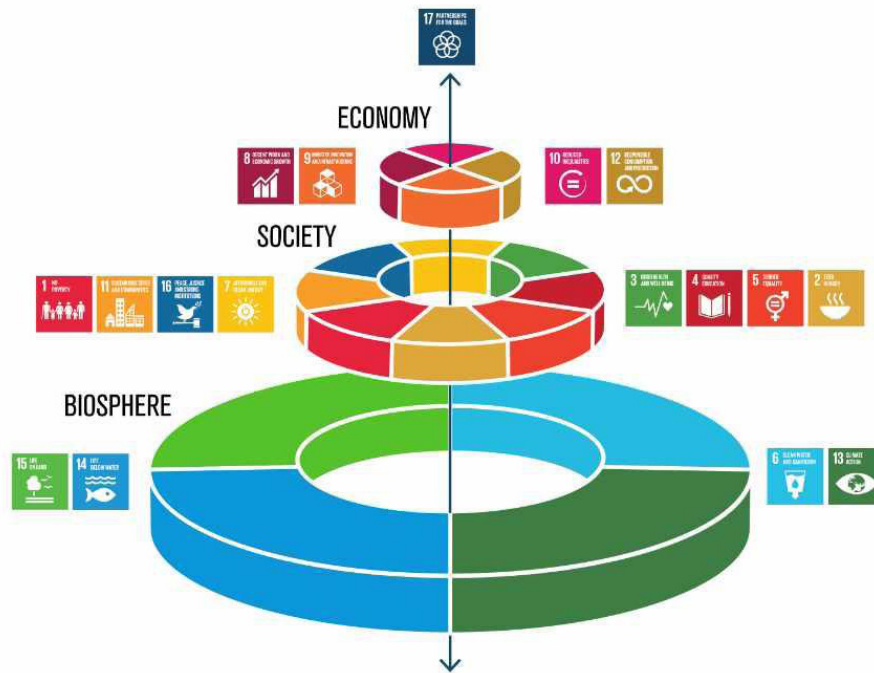
**Mentions 'regenerative agriculture'.*



A FRESH LOOK AT THE UN GLOBAL GOALS

Look at the SDG's and alternatives to modern agriculture through regenerative approaches (regenerative agriculture / economics / societies. Circular, no waste, systems rather than current linear design / systems.)





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 societies 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 practises, through sustainable improvements towards realising regenerative practises, economies and societies.

Beyond Sustainability: Designing Regenerative Cultures



*Note that the above model shows the SDGs as just a bridge to a system beyond sustainability to restorative and regenerative processes.

*Davy Philips of The Ecovillage Cloughjordan and Cultivate could give us a detailed breakdown of the two above diagrams to help us with our delivery to schools.



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