

Industrial agriculture, its effects on the environment and its contribution to climate change.

Notes for CLP Discussion on Friday November 3rd at the Colliton Club:

(I have put this in sections, so people can follow links about bits they might be interested in, rather than trying to cope with the whole sorry mess!)

Background

Speaking at the 2015 Tolpuddle festival, Jeremy Corbyn reminded his audience that Dorset was where much of trade unionism began; that we should not forget Labour's agricultural roots.

While Dorset has its areas of industry, it is very much a rural county, governed by large Tory landowners with tenant farmers. Labour needs to be able to talk to people in the rural community about agriculture in an informed way if it is to challenge the status quo.

Rural communities are just as much in need of affordable housing, public transport, access to schools, education and jobs. Rural households *have* to depend on having a car, but across the country pay more for their petrol than city dwellers. In other words, they are as much in need of socialist policies as the towns and cities.

Environment

When people talk about the environment, they mean everything green. But the environment is also just what surrounds us. We live in an urban environment, a rural environment, an industrial environment, a coastal environment. Where the environment is concerned, government has the responsibility for water and air in all areas.

A good environment means clean air, clean water, healthy soil, biodiversity and sustainable life for everything – if we don't have everything, humans will end up with nothing

Water quality is far better than it was, but we are still using/wasting too much water with streams and small rivers running dry in the summer. But on Tuesday a UN report compiled by the World Health Organisation said that the air in 44 UK cities is so polluted it is dangerous to breathe.

<http://www.independent.co.uk/news/uk/home-news/air-pollution-uk-worst-places-towns-cities-london-too-dangerous-to-breath-un-who-report-a8028566.html>

Current government has been in court more than once over this and is still not taking appropriate action.

<http://www.independent.co.uk/environment/government-air-pollution-plan-court-lawsuit-clientearth-defra-a7820451.html>

What really matters for environmental health is ecology, the way everything from microbes to trees, works together. In a good system everything both gives and receives benefits from everything else. This is where we have mucked up big time. We need the natural world.

Examples

We have imported alien species (animals/mink, plants/Japanese knotweed, insects/continental ladybirds, crustaceans/North American crayfish) all of which damage our native ecology.

We have exterminated almost all of our predators. Without predators the deer population does huge damage and prevents the regeneration of woodland by eating saplings. Wolves and lynx controlled deer numbers which restored a balanced ecology – as in Yellowstone Park where they reintroduced wolves <https://www.yellowstonepark.com/things-to-do/wolf-reintroduction-changes-ecosystem>

Reintroduction of predators is being considered in the UK

Lynx:

<https://www.theguardian.com/environment/2017/jul/07/lynx-could-return-to-britain-this-year-after-absence-of-1300-years>

<http://www.bbc.co.uk/news/uk-wales-41024161>

Wolves:

<http://www.telegraph.co.uk/science/2017/06/30/wolves-brown-bears-could-return-british-countryside-naturally/>

We exterminated our beaver population, but beavers help prevent flooding. Devon Wildlife Trust has done valuable work on this and wants to see beavers reintroduced on headwaters elsewhere.

<http://www.devonwildlifetrust.org/enclosed-beaver-project>

But there are other causes for flooding. In Wales and Scotland mountain hillsides have been cleared of ancient forests for sheep grazing.

<http://www.monbiot.com/2017/01/04/the-hills-are-dead/>

Climate change/global warming

Emissions remain in the atmosphere for years, affecting the climate – some of the changes we are seeing now are the result of what we emitted at the end of the 90s.

<https://www.theguardian.com/environment/2012/jan/16/greenhouse-gases-remain-air>

75% of greenhouse gases we have put into the atmosphere will still be there in 500 years and it will take another 25,000 years before most of them are absorbed by the oceans:

<https://www.theguardian.com/world/2017/jun/15/timothy-morton-anthropocene-philosopher>

Global warming – latest report (in Nature) states we have a 1% chance of limiting global warming to 1.5 degrees and a 5% chance of limiting it to 2 degrees (the Paris Accord). If it goes above 2 degrees we lose any hope of control and are facing serious impacts:

https://www.washingtonpost.com/news/energy-environment/wp/2017/07/31/we-only-have-a-5-percent-chance-of-avoiding-dangerous-global-warming-a-study-finds/?utm_term=.82bba535220f

Today (Nov. 3rd) the Guardian published a study that looks at what will happen if we head for a 3 degrees rise, with the loss of coastal areas and cities:

<https://www.theguardian.com/cities/2017/nov/03/miami-shanghai-3c-warming-cities-underwater>

Global warming is major threat not just to humanity's survival but to all the natural world, almost all caused by human activity.

<https://www.nytimes.com/2017/11/03/climate/us-climate-report.html>

We not only pump carbon emissions into the atmosphere, we damage and destroy the natural processes that balance our climate. The result is extreme weather changes, desertification in some areas and excessive rain in others, wildfires and hurricanes, heatwaves - in India this year a record of 51° Celsius

<http://www.dailymail.co.uk/wires/afp/article-3600633/India-sets-new-heat-record-temperatures-soar.html>

Ice melt

Ice at the poles act as reflectors of heat from the sun. Replace that with water which is dark and the water absorbs the heat – the ‘albedo effect’ – which melts more ice.

A report I received yesterday (Nov 4th) predicts an **ice-free** Arctic summer by late 2030s.

<http://www.sgr.org.uk/resources/state-arctic-heightens-focus-climate-policy>

This could affect the course of the Gulf Stream and a change in our weather system.

<https://phys.org/news/2017-06-climate-gulf-stream.html>

But oil companies are still trying to get licences to drill for oil in Arctic waters and Trump is keen to overturn Obama’s ban

https://www.washingtonpost.com/news/energy-environment/wp/2017/06/29/trump-says-the-atlantic-arctic-could-soon-be-open-to-oil-drilling/?utm_term=.7ae93770b9dc

And an Alaskan Senator wants to both tackle climate change and drill for oil in the tundra. <https://www.nytimes.com/2017/11/01/climate/murkowski-alaska-anwr.html>

But the tundra is also melting (I have been told of people who had to move 3 times because houses were collapsing) and releasing methane into the atmosphere. Methane, while it doesn’t last as long in the atmosphere as carbon dioxide, is more powerful than other carbon emissions. Anaerobic digesters produce methane.

Sea level rise

Carbon Dioxide levels haven’t been this high for 3 million years and global sea levels were up to 60 feet higher. <http://bgr.com/2017/10/30/co2-levels-global-warming-climate-change-highest-in-millions-of-years/>

Most major world cities are on the coast. Pacific islands are already disappearing <http://edition.cnn.com/2016/05/10/world/pacific-solomon-islands-disappear/index.html>

Bangladesh would disappear meaning millions of refugees

<https://www.theguardian.com/global-development/2017/jan/20/bangladesh-struggles-turn-tide-climate-change-sea-levels-rise-coxs-bazar>

Nearer home, the Netherlands are at risk of disappearing.

In the UK, ice melt, a rise in sea-level, more extreme weather, and high storm surges from the sea will put all coastal areas at risk.

An unpublished government report showed that 12 of 19 nuclear power stations are at risk of flooding, as are the nuclear waste storage facilities:

<https://www.theguardian.com/environment/2012/mar/07/uk-nuclear-risk-flooding> (think Fukushima where the problem is getting worse, not better

<http://dailycaller.com/2017/02/17/fukushima-nuclear-meltdown-worse-than-expected/>)

This is all very scary stuff. But a lot of it can be controlled if we take action. Up to a third of global warming emissions are due to the way we farm, so reforming the way we farm will help.

Industrial agriculture

Agriculture never used to be an 'industry'. It was labour-intensive; farms were run as small units; food was grown for local communities and only surpluses were sold.

Now, small farms are being bought up, the land holdings are huge and managed by fewer people aided by ever-larger machinery and chemicals. The loss of jobs - most 'agricultural' jobs lie outside farming the land. You can be working in 'agriculture' if you work for a bio-tech company or produce or sell farm machinery etc. Farming now accounts for about 1.5% of the total workforce:

https://en.wikipedia.org/wiki/Agriculture_in_the_United_Kingdom

The farmers are getting old – the average age is 59

<http://www.telegraph.co.uk/news/2016/10/05/andrea-leadam-is-right--we-need-to-get-more-young-people-into-fa/>

Only 13% of farmers are under 45 (see Hansard Commons debate 25 April 2017)

And young people can't access small farms. Many councils are selling off the council farms where so many young farmers started.

<http://www.fwi.co.uk/business/somerset-continues-depressing-farm-sell-off.htm>

<http://www.fwi.co.uk/business/tenants-limbo-as-4000-acres-of-council-farms-go-on-sale.htm>

An estimated 33% of carbon emissions are down to agriculture, so it makes sense to reform agriculture.

<http://www.bbc.co.uk/news/science-environment-36315952>

Soil erosion and loss

We cannot live without soil, healthy soil, soil that takes many years to form.

We are destroying the soil 100 times faster that it can form.

The world has already lost a third of its arable land due to soil degradation and erosion.

<https://www.theguardian.com/environment/2015/dec/02/arable-land-soil-food-security-shortage>

That means a loss of food security.

Scientists are warning that, globally, we only have about 60 harvests left.

<https://www.scientificamerican.com/article/only-60-years-of-farming-left-if-soil-degradation-continues/>

George Monbiot, whose research is very thorough, has come to the conclusion that we need to worry more about this than climate change (we'll die from lack of food before the effects of run-away global warming take over).

<https://www.theguardian.com/commentisfree/2015/mar/25/treating-soil-like-dirt-fatal-mistake-human-life>

Soil erosion is caused by:

Creating huge fields and removing trees and hedges

Using ever-larger farm machinery which impacts the soil so rain water can't be absorbed but runs over the surface, taking topsoil with it

Converting pasture with deep rooted plants to rye grass (and if you see an orange field, it has been sprayed with Roundup ready to plant rye grass.) Soil is exposed in a rye grass field, where proper pasture completely covers the soil and acts as a carbon sink as well.

Growing maize –this has hugely increased in the last year. Once harvested the field is usually left untouched over winter, so any winter rains remove topsoil. You often see streams and rivers discoloured by the soil on its way to the sea. The disastrous flooding in the Somerset Levels was not caused by lack of dredging on the Levels, but by flood water coming from the surrounding hills onto the Levels and, instead of flowing out to sea, being pushed back onto the Levels by a storm surge.

Degradation is caused by over-farming and heavy use of chemicals (herbicides and pesticides) to the extent that nothing can grow.

Flooding

All of the above causes flooding downstream, plus the effects of deforesting the hillsides. Which is why we need much more tree planting and beavers.

Why are we growing so much maize? It's animal feed. And many more animals are being kept inside. Too much valuable arable land is being used to grow animal feed when animals naturally feed outdoors on pasture. Land also wasted growing 'bio-fuel' crops such as maize – not needed if we actually put resources into genuine renewably energy.

Yet we import more than half of our food and animal feed

<https://www.theguardian.com/environment/2016/jan/06/more-than-half-of-uks-food-sourced-from-abroad-study-finds>

We are not using the land we have wisely.

Animal welfare

Too large numbers of animals kept in crowded conditions encourage disease. Average age of a dairy cow is now 5, when pasture-kept cows can go on producing milk well into their teens.

How does all of this affect the ecology?

Pollution from chemicals

Encouraged and lobbied by the agricultural companies, farmers now feel dependent on chemicals to grow their crops. Too many chemicals have actually lowered crop yields, as is happening with GM crops:

http://www.ucsusa.org/food_and_agriculture/our-failing-food-system/genetic-engineering/failure-to-yield.html#.WgGKrrLHUA And a recent study shows that reduced pesticide use did not affect crop yields

<http://www.weltagrabericht.de/aktuelles/nachrichten/news/en/32448.html>

Ecological deserts

What are ecological deserts?

You don't need sand for a desert. Monoculture, field after field of just one crop is a desert. The only wildlife that can prosper here are the insect pests because a monoculture system is easy to find and target.

Modern farming is no friend of wildlife and wildlife is an important part of the ecology.

Farmers grub out or mismanage hedges where wildlife should flourish. Hedges are natural nesting areas for many small birds. Bird population drops, but birds used to feed on the insects that farmers call pests. So...

Farmers spray their crops with pesticides, killing a food resource for small birds, so there's even more loss of small birds. But pesticides also kill the vital insects that pollinate the crops producing most of our food.

Last week a German study was published, showing a loss of 75% of insects over the last 25 years.

<https://www.theguardian.com/environment/2017/oct/18/warning-of-ecological-armed-doom-after-dramatic-plunge-in-insect-numbers>

<http://www.monbiot.com/2017/10/23/insectageddon/>

But almost all insects are pollinators in one way or another –75% of world food crops depend at least in part on pollination.

There is nowhere for wildlife to hide. If you want to see an ecological desert, take a drive out of Dorchester along the hills between Dorchester and Middlemarsh. Where there used to be downland pasture, all the land has gone under the plough. There are tiny patches of woodland and the vast fields are separated by miniscule strips of grass and bits of damaged hedgerows. It's one reason why you don't see kestrels up there now – there's nowhere for the little rodents that they hunt to live and breed.

Modern industrialised farming makes money for some but most farmers depend on the EU subsidies. And it is destroying the earth's ability to feed us and all other life. How do we turn that around?