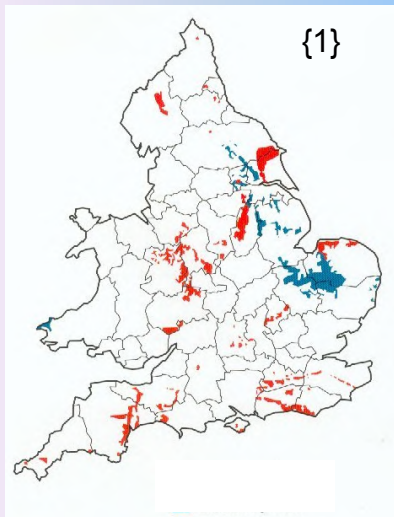


Increasing Population, will this be the death of us?

How leaders can tackle the problems of land degradation and increasing population in Britain .

Word Count:3262

Land Degradation is a global problem which will affect all members of society. As students of the University of Manchester we will be most affected by its impacts on a national and regional level. Therefore we will be solely investigating the leadership challenges facing the organisations who have the power to make a difference on these scales.



This map shows areas of Britain that are already at risk of soil erosion which is one of the major forms of Land Degradation. The Red areas are at risk of erosion by Water while the Blue areas are at risk of erosion by Wind. Unless leaders begin to adequately tackle the problem of Land Degradation the quality of this Land which drastically decrease and other areas will also become high risk areas.

In this project we are going to identify the link between population increase and Land Degradation. Then identify the three leaders we feel are best positioned to combat this issue. We are going to analyse what they say they do, what they actually do and finally what they are planning to do. We are then going to look at the problem from the alternative angle looking what society can do on a smaller scale. To do this we are going to focus on the leaders who are making an impact on our community; Manchester city council; local charities and the universities. Finally we will conclude our argument by discussing if the leaders are adequately combating the issue.

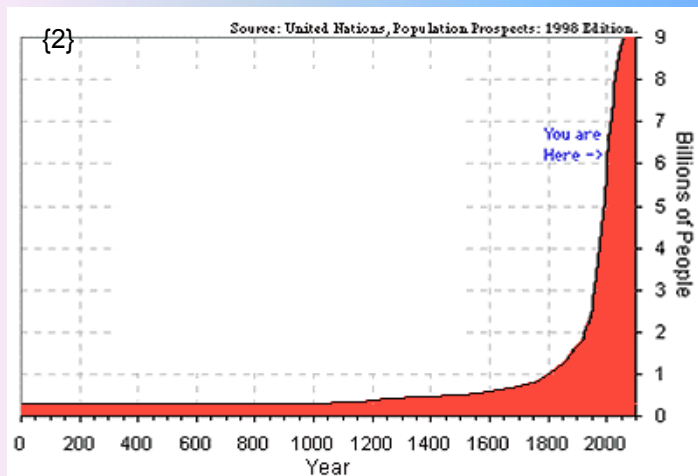
This formula[1], known as the “Ehrlich Equation” shows the positive relationship between population size and Land Degradation. This is a result of the basic needs of each person. Such as ,more food being needed and more land must be used for housing. This requires more resources and applies greater pressure to the Earth. This has lead to 40% of land being used for agriculture compared to 7% back in 1700[1]. This has lead to farmers using less productive Land and farming more intensively. However in Britain advances in technology has led to Agriculture been cited as part of the solution. In 2010 agricultural emission were stable while they grew by 3% in the rest of the economy[2]. Unfortunately as Britain's population has boomed since the second world war the growth in affluence has not been sustainable. Environmental impact has only recently been included in decision making and so the effects have been extreme.

$$\text{Environmental Impact} = \text{Population Size} \times \text{Affluence (or Consumption)} \times \text{Technology}$$

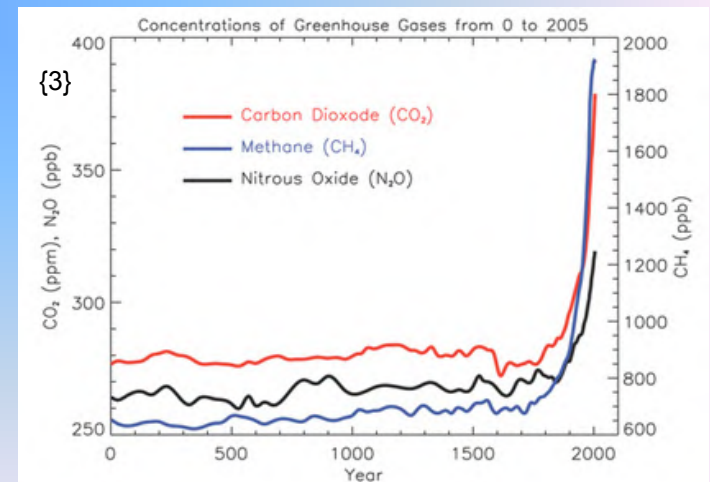
Intellectual advancement and economic growth since the industrial revolution has lead to Britain becoming one of the world's largest polluters. The production of greenhouse gases, depletion of natural resources and changes to people lifestyles is having a severe effect on the global climate; causing famine; destroying ecosystems and creating adverse weather patterns. If our consumption continues at these unsustainable levels then the damage we cause will be irreversible and the globe will be forever changed.

The changes we are making are being accentuated by positive feedback systems. For example increasing global temperature is melting of the polar ice caps is reducing the amount of the sun's rays reflected .

The link between increasing population and Land Degradation



Looking at these graphs it is clear to see that there has been a spike in both greenhouse gases and population since the 1800's. This data reinforces the Ehrlich Equation. They also show how drastic action is required to reverse these current unsustainable trends.



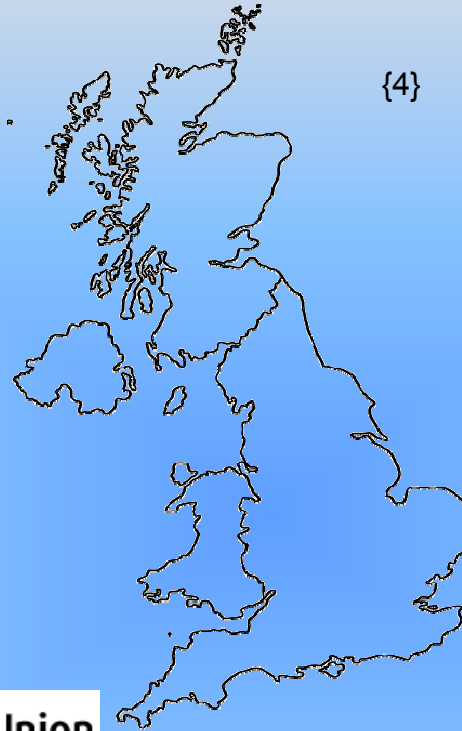
Land Degradation in the UK and the most influential leaders tackling the issue



National Farmers Union (NFU)

“Is the largest farming organisation in the UK, providing a strong, respected and independent voice for the industry.”[3] It was founded in 1908 and provides official representation and services to its Farmer and Grower members.

Around three- quarters of UK land is under agricultural management. NFU gives advise to land stakeholders on how to protect the environment while also meeting the increasing demand for food and land. In other words, NFU is aimed at achieving sustainable agricultural land usage.



European Union

europa.eu

European Union

The European Union (EU) was officially introduced in 1991 at the signing of the Maastricht Treaty. [4]. Ever since then the European council has been responsible for welfare of all the states within it. This includes being at the forefront of tackling the issue of land degradation, as the image to the right proves [5] this has been a major issue within all member states. Especially as according to Environmental Protection UK *‘The cost of soil degradation in England and Wales is estimated at £264 million annually’*[6], imagine what this cost is for the whole of Europe.



defra

Department for Environment
Food and Rural Affairs

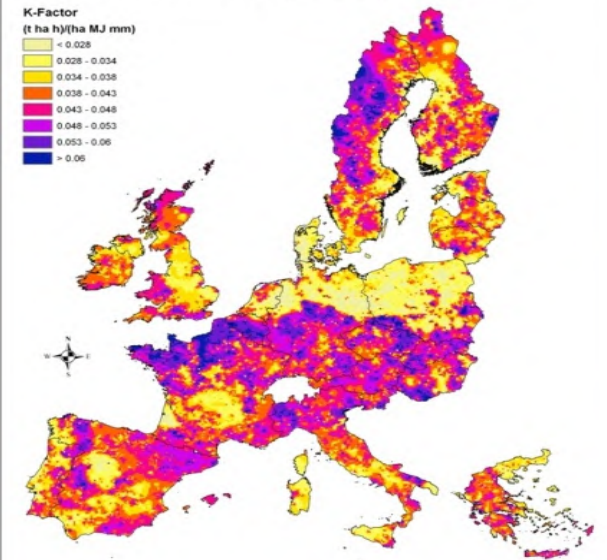
Defra

The government addresses several issues and operates through many departments. The department associated with combating Land Degradation is the Department for Environment, Food and Rural Affairs (Defra). Throughout this presentation we will be using DEFRA as an example of the governments contribution to tackling this issue.

Soil erodibility [(t ha h)/(ha MJ mm)] {5}

K-Factor
(t ha h)/(ha MJ mm)

< 0.028
0.028 - 0.034
0.034 - 0.038
0.038 - 0.043
0.043 - 0.048
0.048 - 0.053
0.053 - 0.06
> 0.06



National Farmers Union (NFU)

They say that they maintain, protect, and enhance a large part of the UK landscape. They do this by lobbying various governments such as Westminster in order to get the UK government aware of their fears concerning land degradation. They also lobby the European Parliament in Brussels in order to ensure that the whole of Europe is aware of their concerns. They host various campaigns [7]



What The Leaders Say They Do...

Defra

Vision: "By 2030, all England's soils will be managed sustainably and degradation threats tackled successfully." [8]

- to maintain the quality of soils
- to reduce the impacts of climate change on the soil system
- to understand the value of soils and incorporate it into the urban planning system
- to deal with historic land degradation and prevent soil from being polluted in the future.

European Union (EU)

The main way the EU has attempted to tackle the issue of Land degradation is through the form of the Sixth Environmental Action Programme of the European Community 2002-2012. [9]. This was set up with the aim of ensuring that appropriate legislation regarding tackling environmental issues were set and adhered to. However, one important thing to remember is that there is still much progress to be made in terms of actually implementing the agreed EU legislation regarding improving soil and water quality. [10]

National Farmers Union (NFU)

The NFU carry out various campaigns such as their popular on-going campaign entitled “Why Farming Matters?” Its aim is to show the world that farming is a vital part of everyday life and to make them aware that it faces many difficulties and needs help. One of the main points of this campaign is to remind the government that this is an industry that needs to be looked after. That it contributes a gross value of £23 billion to the economy [11]. If land and soil degradation continue at its this industry and country as a whole will suffer as a result. This campaign has received support from a range of different politicians including David Milliband MP and also Lord Taylor of Holbeach. Another example of something that the NFU does to try and tackle the issue of Land degradation is the offering of its ‘Centenary Award’ to Post-graduate students who study agriculture. It was launched back in 2010 and they proved 75% of the course fees to students who are about to undergo a post graduate study in agriculture. They specifically identified Sustainable agriculture as one of the areas where students are most likely to gain this award. [12]

European Union (EU)

There is great controversy over what the EU actually does. For example the Environmental Protection UK claim that ‘*soil is not adequately protected within EU legislation*’. [13]. There is also controversy on the effectiveness of the pre mentioned Sixth Environmental Action programme. Such as the fact that the effectiveness of it was compromised as a result of both a lack of ambition of the Commission and from intense resistance from the member states. [14] However, there have been cases where the EU has gone through with its promises. As was seen in the threatened court case against Ireland and the over grazing of sheep threatening the environment back in 2000. [15]

What they actually do

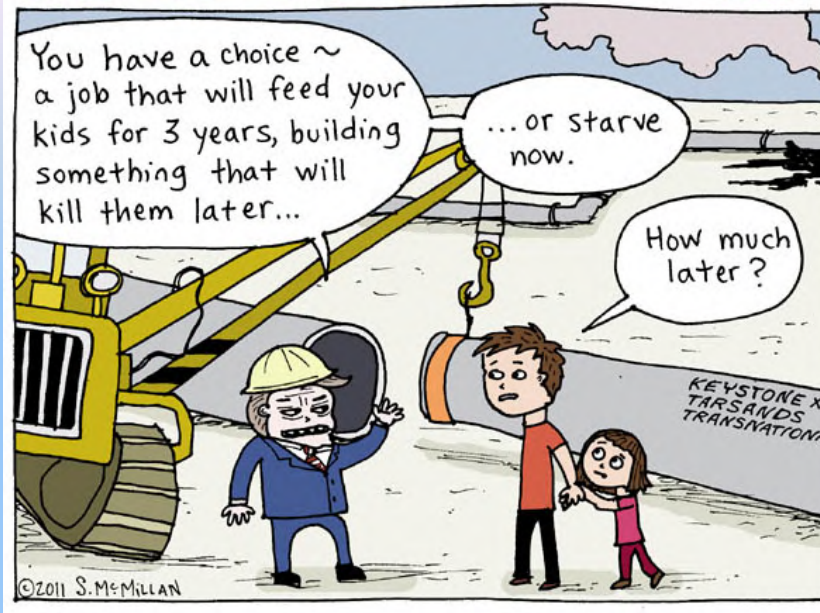
Defra

Defra has are a wide variety of environmental priorities[16] that guide their actions. Including the recognition of the importance of high soil quality as it is “a fundamental and essentially non-renewable natural resource”[17]. Our actions through “intensive agriculture, historic levels of industrial pollution and urban development”[17] are threatening the quality of the soil. Therefore, DEFRA regularly update their strategy with policy documents such as “Safeguarding Our Soils” published in 2009. They also promote green business by setting targets for the growth of Low Carbon Economy to £4 Trillion by 2015[18] and publishing advice on best practise for making the most of valuable resources in the “Resource Security Action Plan”. Currently Britain produces 290 million tonnes of waste[19] consequently the government is aiming to become a zero waste economy[20]. Defra is the main department helping this major change. They published a full waste review in 2011. This document includes extensive targets for packaging waste such as funding for recycling incentive schemes and plans to develop a full waste prevention process by December 2013[20].

National Farmers Union (NFU)

The NFU plan to use technology to help manage the increasing demand on them without destroying any more soil. However, at the 2012 NFU conference they were concerned that governments would get in the way [21]. They express concerns that leaders such as the European Union seem more intent on increasing tighter controls than allowing for technological developments. They plan to change this through the lobbying and campaigning this issue at the key parliaments as was mentioned on the previous slide.

CODE GREEN {7} iΘ!



What The Leaders Plan to Do...

Defra

As a department DEFRA plan to make themselves more transparent and accountable when it comes to dealing with environmental issues. In a report that was compiled in April 2012 they listed prevention of degradation as one of their most important issues as 'preventing habitat loss and degradation'. [22] As well as this action plan they hope to carry on working with organisations such as the Common Agricultural Policy (CAP). This is the EU's common policy. It set a strict standard on promoting sustainable agriculture and 40% of the EU budget was spent on it.[23]

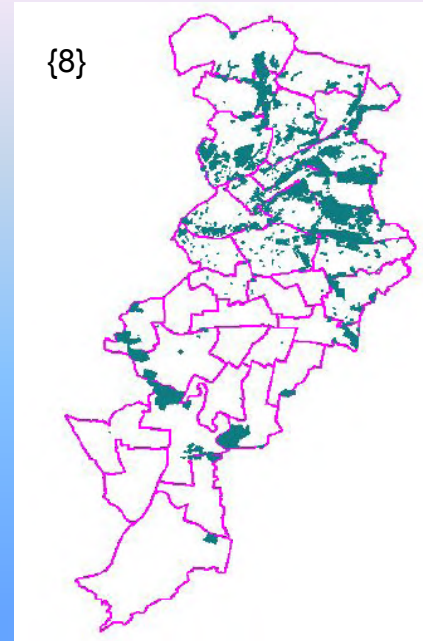
European Union (EU)

The two main things that the EU plans to take part in/support in terms of combating the issue of land degradation in both the UK and other countries are as follows. First there is the 7th Environmental Action Programme that intends to address a longer term approach to environmental and land degradation. [24] Also the EU supports the Rio + 20 United Nations Conference on Sustainable developments, current movement that supports stronger involvement from local decision makers in the UK. [25]

Local Leaders

Manchester City Council

The Local Council is currently held by the Labour Party and is a significant leader in local environmental changes. It has the power to tailor national policy to the needs of the city and promote positive change.



Above and to the right is a diagram showing the areas of the City with the greatest concentrations of historical industry and land filling. It shows the high concentration of industry in the north of the city. And highlights potential areas of concern.

Manchester was a major city at the heart of the industrial revolution. This rapid industrial expansion was conducted without consideration of the environment and so the scars on the Landscape can still be seen today. The Council has set out a specific policy document “Contaminated Land Strategy”[26] which identifies the problems this land causes and strategies for its improvement. They see wide spread benefits of such regeneration; improving health of the inhabitants and quality of the environment as well creating successful communities within the city.

In order for these benefits to be realised the council is going to implement several strategies: the detailed inspection and remediation of potentially contaminated sites[27]; assessing the risk of landfill sites[27] and increased co-operation between the council and other important stakeholders. A major stakeholder involved in this redevelopment is Defra as they set out the government’s policy on contaminated land which the local council has to abide by.

The council are trying to become the countries greenest city[28], this is a challenging objective as they hope the city will continue the cities growth in size, health and economic performance. However even with these changes they are still targeting a 48% reduction in carbon emission by 2020 and a rapid transition to a low carbon economy[29]. It is clear the early initiatives the council has introduced to tackle the problems have so far been successful because they have been listed in the top five percent of organisations in reducing carbon emissions[30]. They have also taken significant steps to plant more trees, with 12,000 planted in 2010[31]. This will both reduce carbon dioxide levels and increase the quality of the land within the city.

Local Charities



Action for sustainable living (AFSL):

is a charity based in Manchester which attempts to raise awareness of environmental and sustainability issues. It brings together individuals, groups and communities combining their skills and knowledge to work on projects and improve their neighbourhoods. Its achievements have been recognised on a national scale as it won "the Guardian charity award 2008"[32] for innovation and excellence. They are a small organisation and so their effects are limited they have had many successful projects that have really made an impact. However they are one of many organisations funded by one of national leaders Defra. Defra have several similar projects across the UK and so this clearly shows the linkages between the different levels on which the leaders are workings.

For Example one of their projects was the "Chorlton Permaculture allotment – The Lost Plot"[33]. The was previously a rundown area that was completely transformed as they created an organic garden and a fire pit which acted as a social area. This brought the community together as regular gatherings, workshops and performances took place upon the sight.

In future more projects like this should be undertaken. Another of the Local Leaders the University of Manchester has been very successful at encouraging students to volunteer and get involved in events and projects to improve local environmental quality through the MLP.



Emerge

are a Manchester based organisation and a pioneer of waste recycling services. They specialise in encouraging individuals in reuse, recycle and reduce. They offer companies the opportunity to use their waste management systems or let them conduct a waste audit which analyses how efficient the organisation is.

Compared to Action for sustainable living the impact Emerge is having is much more long term effect as its consultancy services are not only helping companies save money in the short run they are introducing operational standards and policies which can be conducted for several years.

They also work closely with schools[34] educating the pupils from an early age and introducing them to environmental projects within which they realise they can make a difference to the world around them.

One of their waste reduction policies "Fairshare" is tackling the problem of food waste[35]. It redistributes fresh food from organisations where it would go to waste to other areas which are in desperate need.



Land Degradation the University Response



As an institution Manchester Metropolitan University (MMU) has a variety of different policies set up in order to tackle environmental issues. The one that relates most to the issues concerning land degradation is their attempt to reduce waste sent to landfills. One example of this is the fact that they have diverted 213.93 tons of waste from being sent to the landfill. They have also recycled an impressive 5258 litres of cooking oil which as a result allowed them to create enough electricity to make 1.3million cups of tea. They have also recycled 16.82 tons of students unwanted things through their zero waste campaign. Such a campaign is more impressive than others they do because it shows them involving the students in what they do and accepting their responsibility as leader of the student society they are linked with. [38]

The University of Manchester worked in line with Manchester City Council back in October 2010 with their new recycling scheme. This was to enable 8000 students recycling facilities so that less waste gets sent to landfills. They were placed right next to the bins at halls of residence to provide an easy alternative to simply chucking something away. [36]At the University there is also Student action, they work within the UMSU and take part in many volunteering projects around the city. One of these is the creation of botanical gardens. This links to solving the problem of land degradation because they encourage students to plant their own food sources as well as new plants. The grounds at the first botanical gardens in Fallowfield are currently being kept by the University of Manchester Faculty of Life sciences. However, anyone who is a student within the university can sign up and get involved. [37]

As far as dealing with issues concerning land degradation each of the two universities that were looked into have only really tackled the issue of filling up landfills by recycling. Although University of Manchester has set up the botanical gardens there is only one and it is only kept by one faculty within the university. Considering the amount of students the university holds you would expect more than just one garden. The same applies to MMU as our research has failed to find signs of them creating any schemes to help students carry out sustainable gardening.



Conclusion

In order to analyse whether the mentioned leaders are sufficiently dealing with the issue of land degradation in England this e-poster has compared the main leaders in a number of ways. Not only were they directly compared by asking the same question about each one but they were also compared with smaller leaders. We can come to the conclusion that from our research the leaders on a smaller scale appear to have the ability to implement more of a hands on approach. For example the University of Manchester's implementation of the Botanical Gardens. Whereas looking at the other end of the scale at the EU we can see that they have all the grand ideas but no ability to properly implement them on a day to day basis. As was proven by the problems of implementation of the 6 Environmental Action Programme. Arguably this is no excuse and one would expect the leaders to work together especially as their efforts would be towards such a worthy cause. Some form of co-operation was seen through Manchester City Council ensuring their contamination land strategy goals are in line with regulations that were set by DEFRA. However, it can be argued that this was more because they were legally obliged and that it doesn't hide the fact that there is much controversy between the different leaders. Such as the NFU complaining that DEFRA and other governmental departments contain too much red tape preventing them from using technology required to meet increasing demands whilst creating minimum impact on land.

Overall as land degradation and its links to population increase with increased demands on farmers for increasing amounts of foods, its not an issue that is well known compared to other issues. One can safely say that the leaders both locally and internationally are not adequately dealing with this issue.



Images

- [1] http://adlib.everysite.co.uk/resources/000/025/554/pig_site_map2.jpg [Date Accessed 03/05/12]
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Text

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