

Exemplar A

Please indicate the marks allocated (0-12) for each of the 8 Learning Outcome and the total marks (0-96)

Learning Outcome	Assessor marks	Moderator marks
LO1 Understand how to identify the focus and scope of an individual project	/12	/12
LO2 Be able to select and plan research methods, resources and materials	/12	/12
LO3 Be able to select, collate, reference and assess the credibility of information and numerical data	/12	/12
LO4 Be able to analyse the numerical data collected and display using digital techniques	/12	/12
LO5 Be able to synthesise, analyse and use information and viewpoints	/12	/12
LO6 Be able to produce and present an outcome	/12	/12
LO7 Be able to make judgements and draw conclusions	/12	/12
LO8 Be able to reflect on strengths and weaknesses of own performance	/12	/12
Total marks	/96	/96

Exemplar A

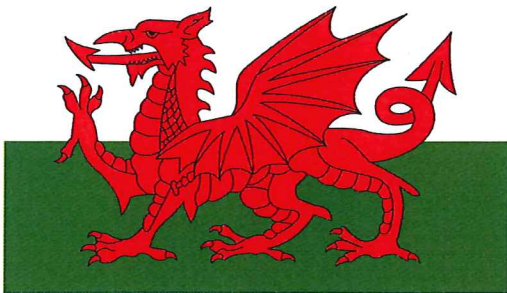
Please indicate the marks allocated (0-9) for each of the 8 Learning Outcome and the total marks (0-72)

Learning Outcome	Assessor marks	Moderator marks
LO1 Understand how to identify the focus and scope of an individual project	/9	/9
LO2 Be able to select and plan research methods, resources and materials	/9	/9
LO3 Be able to select, collate, reference and assess the credibility of information and numerical data	/9	/9
LO4 Be able to analyse the numerical data collected and display using digital techniques	/9	/9
LO5 Be able to synthesise, analyse and use information and viewpoints	/9	/9
LO6 Be able to produce and present an outcome	/9	/9
LO7 Be able to make judgements and draw conclusions	/9	/9
LO8 Be able to reflect on strengths and weaknesses of own performance	/9	/9
Total marks	/72	/72

National Welsh Bac

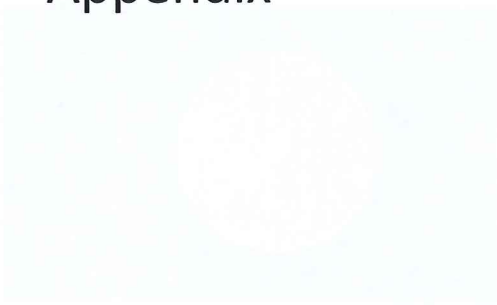
Individual Project

What is the impact on Climate Change in a
Wales a More Economically Developed
Country (MEDC) and Bangladesh a Less
Economically Developed Country (LEDC)?



Contents

- Introduction
- Aims and Objectives
- Research methods
- Primary Data analysis
- Secondary data analysis
- Conclusion
- Evaluation
- Bibliography
- Appendix



Introduction

I have chosen a subject that is of great interest to me for my Individual Project – Climate Change. I have been studying it in my Geography lessons and wanted to learn more about it because it is an important and current subject and evident in our everyday lives. It will be interesting to see how climate change affects various places differently. At the end of this project, I hope to have answered whether a Less Economically Developed Country (LEDC) or a More Economically Developed Country (MEDC) is affected by climate change.

Aims and Objectives

Aim 1 - To discover how much the public know about climate change in Wales.

- To identify the extent to which the public are concerned about climate change.
- To identify whether the public are aware of the ways in which they can reduce the impact on the environment.

Aim 2 - To find out the ways in which Wales and Bangladesh contribute to climate change.

- To analyse secondary information to find out how Wales and Bangladesh contribute to climate change.
- To identify the impact that climate change has on Wales and Bangladesh.

Aim 3 - Find out what is being done to reduce climate change.

- To examine which strategies are in place by Welsh Government to reduce climate change.
- To examine whether the strategies that have been put into place by Bangladesh are as effective as those in Wales.

Research methods

In order to meet my objectives, I will carry out a range of research to be able to fully answer my question.

In order to meet Aim 1, I will devise a questionnaire with a set of questions which will measure how much knowledge the public have about the topic of climate change. I will distribute the questionnaire to 30 people from different age groups within my community to ensure that I get a broad range of responses. I will collate the information and compile graphs so that I am able to analyse the data and form a conclusion on my findings. I will be able to find out the extent to which the public are aware of how they can reduce their contribution to climate change. Using the questionnaire will give me an up-to-date view of public opinion.

I will also conduct an interview with a specialist to find out the extent to which they are concerned about climate change. I will be able to establish whether they think climate change is an issue.

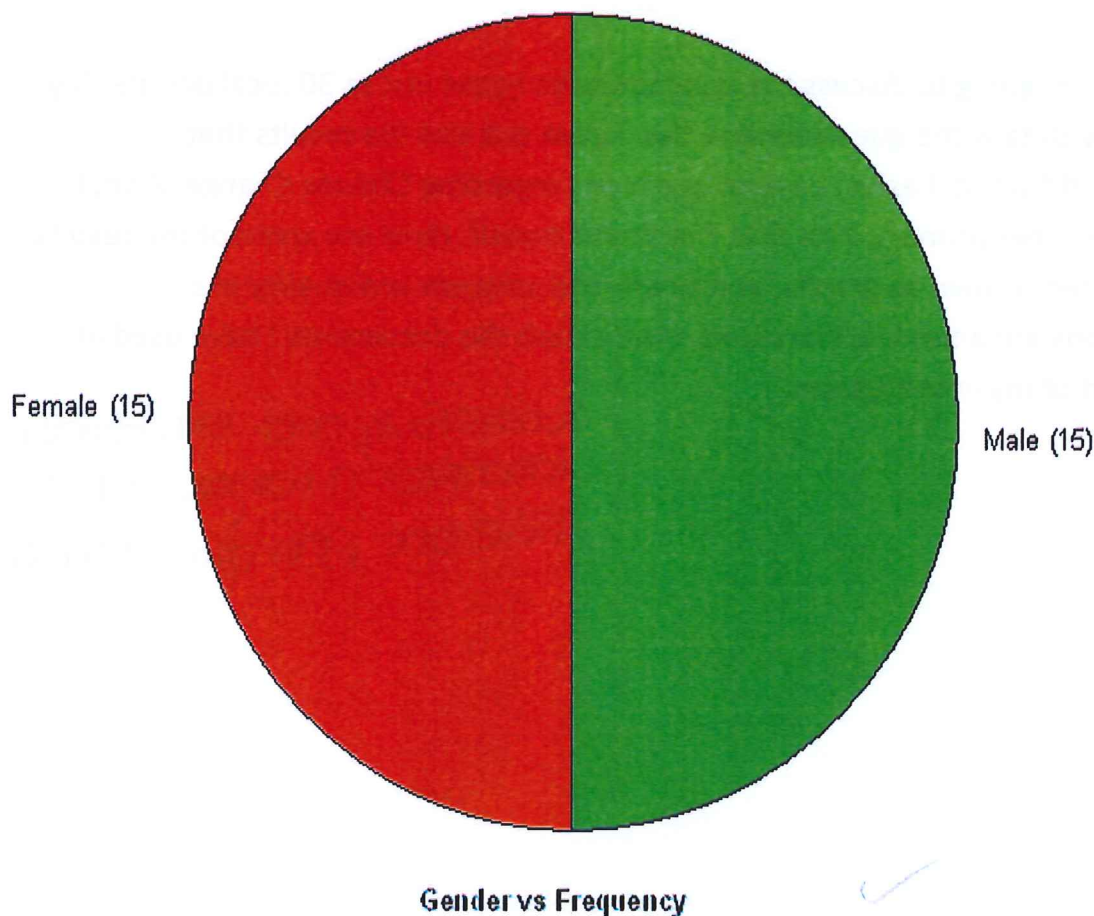
In order to meet Aim 2, I will review secondary information such as statistics from publications to find out the extent to which Wales and Bangladesh contribute to climate change. I will be able to establish which country contributes the most significantly to climate change and consider which country has the largest amount of carbon dioxide emissions. I will also be able to identify the impact that climate change has on Wales and Bangladesh and how this manifests in terms of changes to weather, such as flooding. I can find this information from newspaper articles, which will provide accounts on the impact of climate change.

To order to meet Aim 3, I will examine government documentation to find out what strategies are in place to reduce climate change. These reports will provide me with the information that I require to identify the methods that are being used by each respective country to reduce the effects of climate change. I will be able to establish which country is more effective in addressing the issue of climate change.

Primary Data

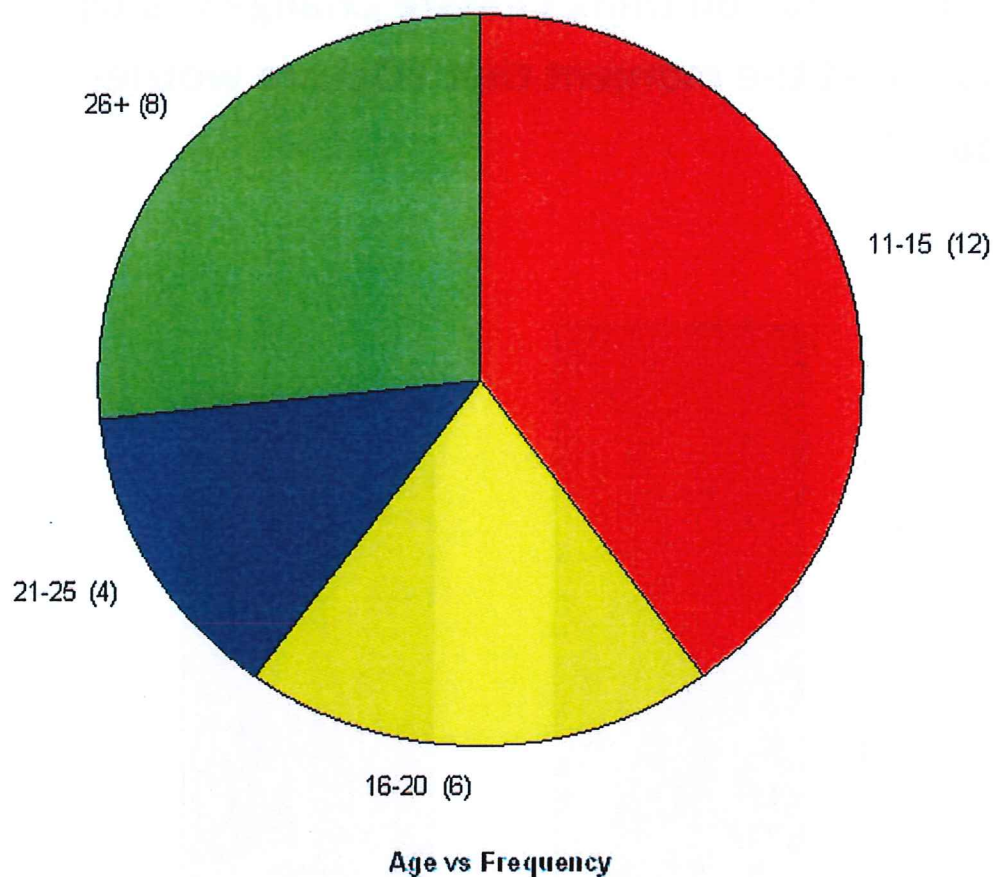
Here, I am going to discuss the questionnaire I gave out to 30 local people. My Primary Data is the questionnaire that I gave out and the results that I collected from it. I asked several questions regarding Climate Change. Also, I will use other primary data that I've found myself. Here are some of the results I collected, shown as graphs, and briefly the answers and quality of the questions are analysed/discussed. I will attach the documents I have used at the end of my investigation.

✓
Successfully and effectively
identifies a range of
relevant primary information

Graph 1:

I made my questionnaire on PinPoint software, so graphs could be drawn directly from my results. This is a graph showing the results from my first question on the questionnaire. I have put this here to show that I asked 30 people, and to show that out of my 30 questionnaires, I distributed half of them to Females, and half to Males. I did this to ensure that I could draw fairer results, because I asked the same number of men, as women, and I knew that this was the best way to get more accurate conclusions, and get opinions from both genders. I'm glad that I did this, because now I think my results are more reliable, and won't be subjective to one gender's view.

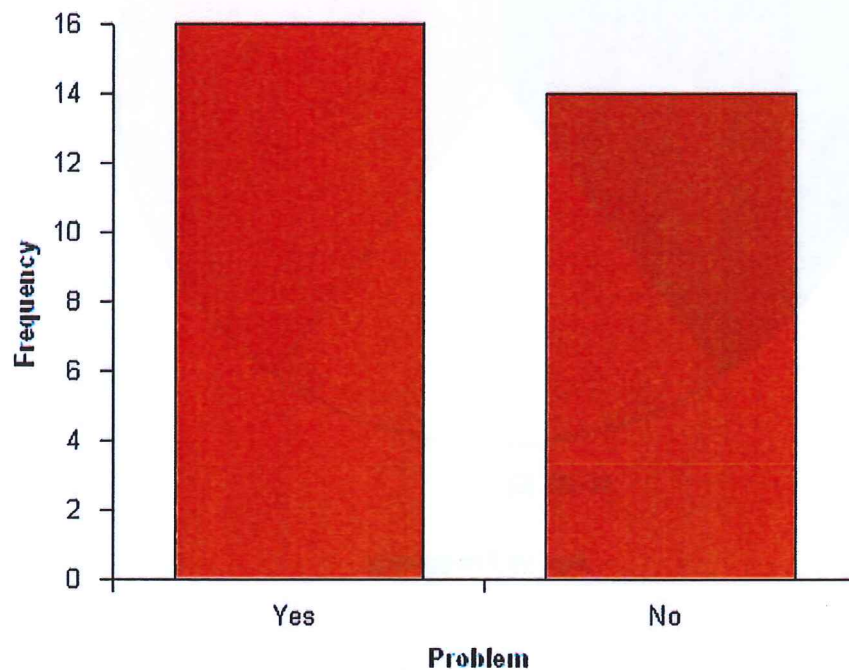
Successfully and effectively identifies
selects and uses a range of
relevant primary information

Graph 2:

This graph shows that I asked a quite a wide range of people. I asked people from the age of 11 to 26+. This means I am likely to get mixed results as the opinion on Climate Change will differ from generation to generation. As you can see, the majority of people I asked were in the age group of 11-15yrs. This is because many of my friends and people in my school are this age. If I could re-do the questionnaire, I would definitely try to distribute it more evenly across all age ranges, although I felt that the distribution was not too bad, I could definitely improve. Also, I would change my ranges, my range is relatively large, but looking at it now, I feel that 26+ is too vague. I should have done more ranges. That is the main thing I'd change on this question. ✓

uses a range of appropriate and effective skills and techniques.

Graph 3: “Do you think Climate Change is a big problem at the moment that YOU are worried about?”



This graph shows the answers to the above question. This was very interesting for me to see, as I did not expect a near enough even split. With 16 people saying that climate change is a problem to worry about, and the other 14 saying that climate change is not a problem to be worried about. When I collected my questionnaires in, and saw that 14 people said No, I was interested in knowing why they gave this answer. So when I asked them, every single one of the 14 people gave similar answers. They said things such as-

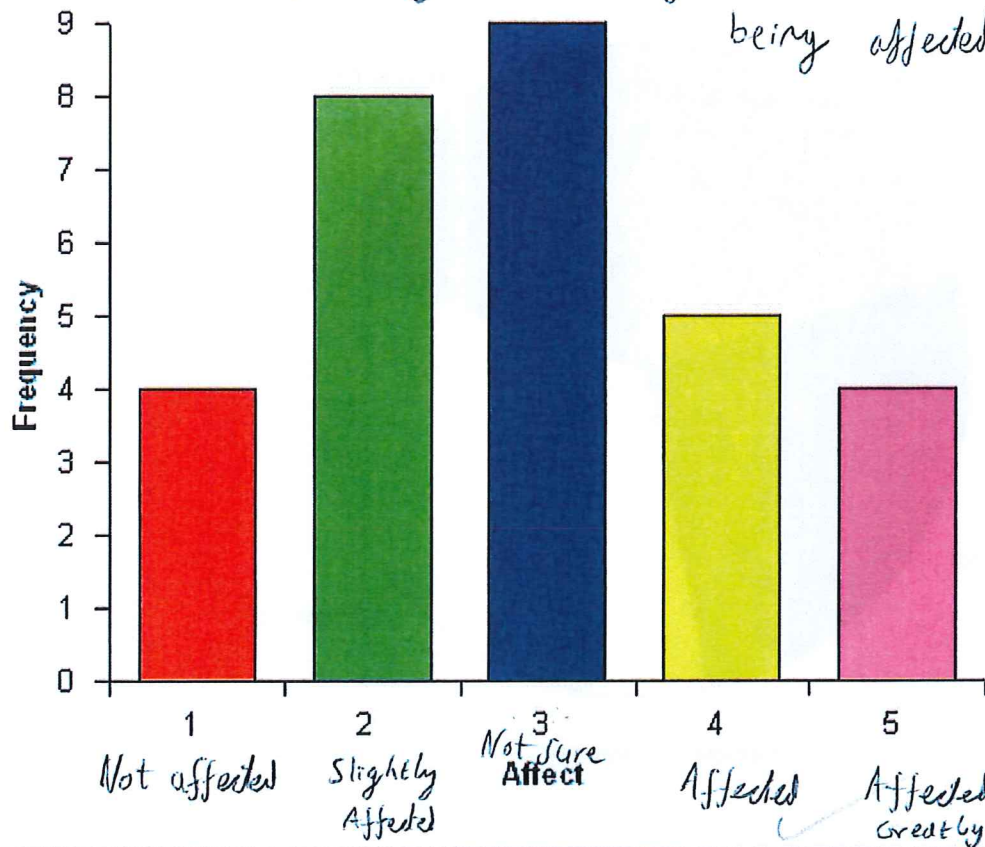
“Well, it doesn’t affect me, I have never physically been affected by climate change...”

“It doesn’t affect me, I am not affected by it in my opinion, and I’ve never had to think of climate change in my life.”

“The weather has stayed exactly the same”

Not all of the above are accurate, but I do understand how they may come to this conclusion, many(not all) of the people who said No, were quite young, and in the younger ranges. So they would not maybe notice the changes happening around them, or not have been alive long enough to notice the changes. I understand also that people don’t think it affects us in Wales, because maybe it’s because they see other countries which are affected more, e.g. Rising Sea Levels, more flooding, drastic changes etc. So they don’t think that Wales is affected. I will discuss if Wales is or is not affected later on in this investigation in depth, as well as if other countries are.

Graph 4: To what extent do you think Climate Change Affects you? 1 being not affected at all, and 5 being affected greatly.



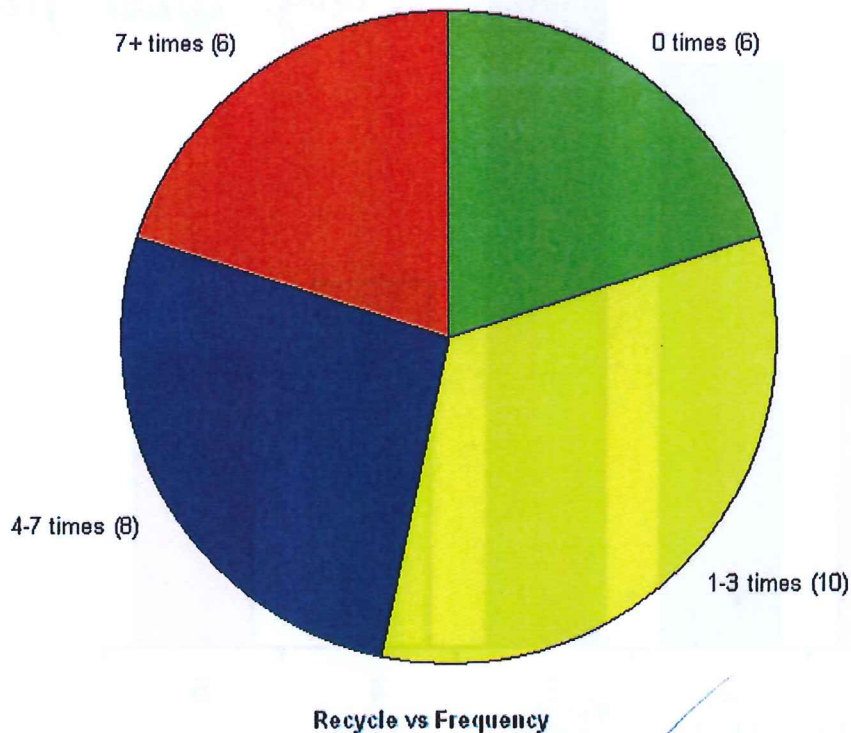
This graph is associated and closely linked to the previous graph. This just highlights to what extent people think climate change affects them. It's interesting to see that actually only 4 people say that they think they are completely affected by climate change. The same number of people who say they are not affected at all.

The most popular answer is '3'. In the middle. This indicates to me, that maybe many people were unsure, which means my data may not be completely reliable. But I still feel that it gives me the gist of what I need to know.

It's also interesting to see that in this graph, by looking at it more people are swaying more towards climate change not affecting them, than affecting them. With 12 people who answered 1 or 2, and only 9 people answering 4 or 5. This again shows there is some uncertainty among the people I gave the questionnaires to, so my data may not be completely accurate.

uses a range of appropriate and effective skills and techniques

Graph 5: "How often do you recycle in a week?"

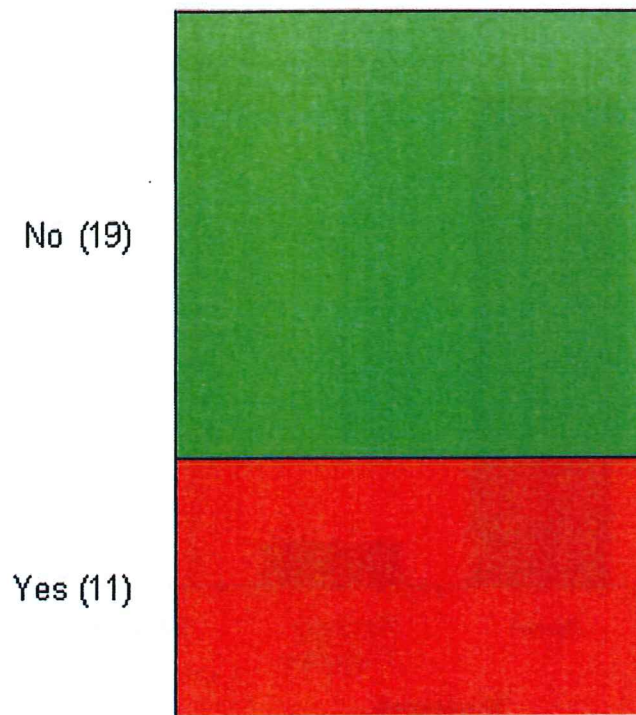


I asked this question, because recycling is a huge factor that affects climate change, and I wanted to see how often people recycled a week.

I couldn't believe that the same number of people recycled 0 times a week, as people who recycled 7 or more times a week. 7 or more, means at least once every day. I was shocked that only 6 people did this. But, looking at my questionnaire, people could have put their tick in 4-7 times. So I was unclear here, and it was a large mistake on my part. But either way, there are fewer people who recycle 4-7, or more times a week, than there are of people who recycle 0 or 1-3 times. This is shocking, as recycling is such an easy thing, that can help so much (I will discuss later on in the investigation in detail)

This question could be improved, and if I was doing this again, I would improve it, to make it more accurate. But it still shows my results relatively accurately. I really don't understand why people don't recycle, it's down to laziness.

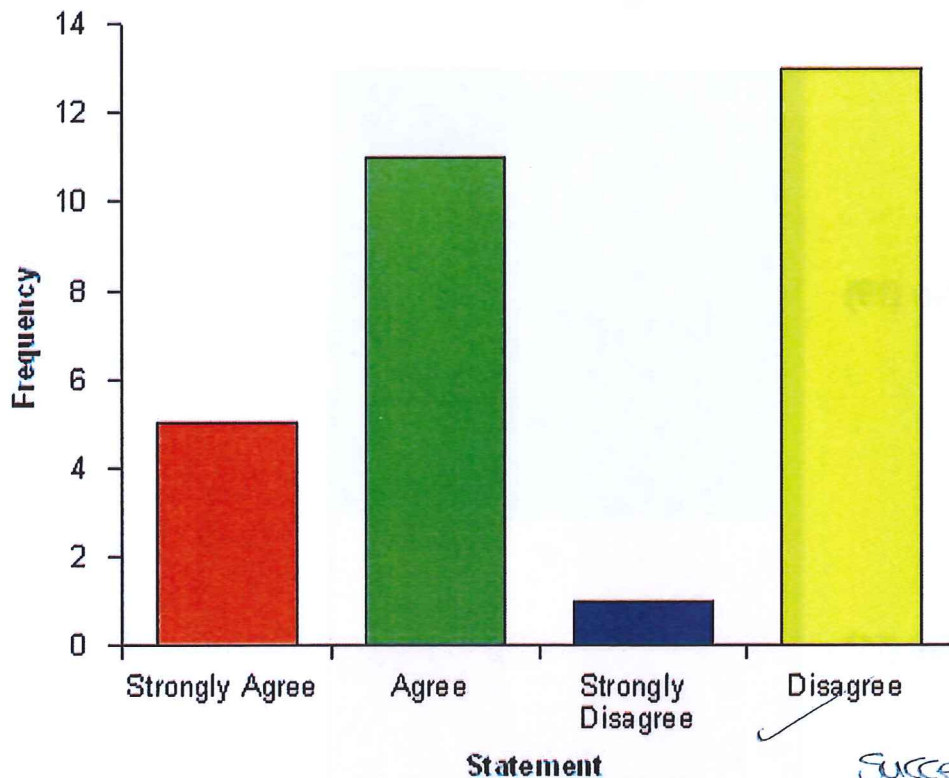
Graph 6: "Do you think Wales have strategies in place to deal with climate change?"



Stratergies vs Frequency

These are the numbers of people who think Wales have strategies in place to deal with climate change in the future. It is true that there are strategies, but only 11 people knew this. I think this is awful. It is clearly evident, that Wales have not shared their strategies with people in Wales. How do Wales expect people to understand climate change, and understand how much of a problem it is, when they are not actually aware of the problems. From looking closely at my data, many of the people who didn't think Wales had strategies, also didn't recycle a lot, or didn't think climate change affected them. This could be because they don't actually know. I am going to research more into the strategies further into my investigation, and I will look further into why people actually aren't aware of climate change in Wales.

uses a range of appropriate and effective skills and techniques

Graph 7:

*Successfully organizes
and presents findings
in an effective way*

Here, I showed the statement-

'More Economically Developed Countries are less affected by Climate Change than Less Economically Developed Countries'

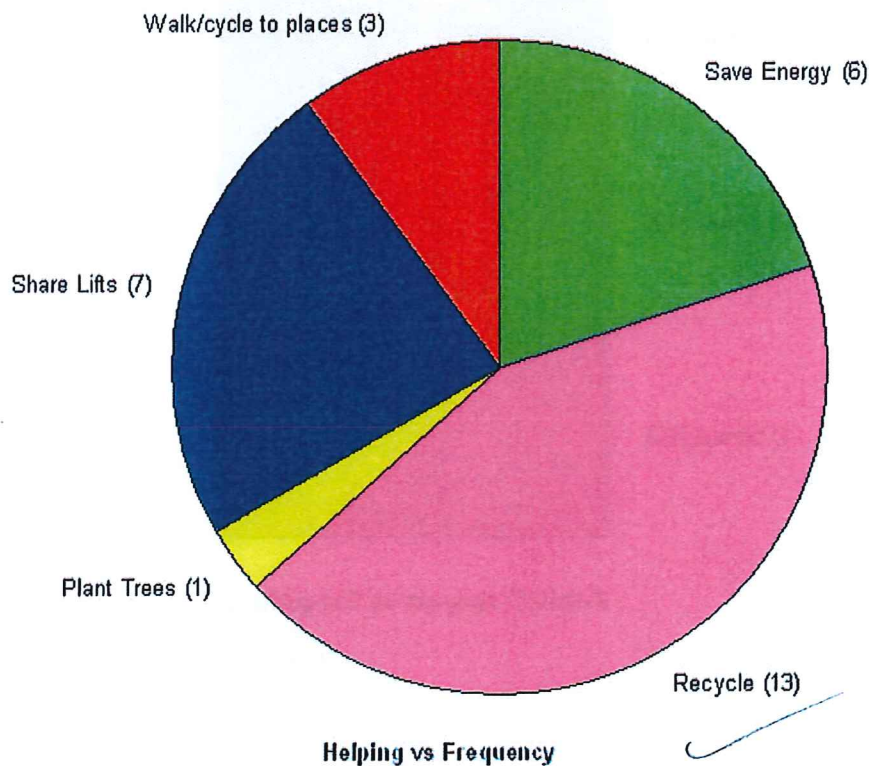
It's clear that majority either agree or strongly agree. But many do disagree. This shocked me greatly, and I couldn't understand why people would disagree, but when I asked some people, they said that they don't think that all MEDC'S have strategies in place to deal with climate change, so they are not necessarily affected less. Also, MEDC's are richer therefore let off more fossil fuels or CO₂, so they could be affected more by climate change.

I do understand to an extent, and these are very fair reasons. For example, people who thought Wales (An MEDC) have no strategies in place to deal with climate change may think that it's affected more. I am not quite sure.

I expected more people to agree, because I thought that they would naturally think that MEDC's have more money, therefore can have the provisions in place for the future, to help reduce the impacts of climate change.

This indicates to me that schools are not doing enough to educate people from a young age about climate change, people need to understand more and need to be better educated, and climate change is becoming more prevalent in our lives, so people need to understand it better in order to actually help the problem.

Graph 8: "Tick the box that you consider you do the most of to help climate change."



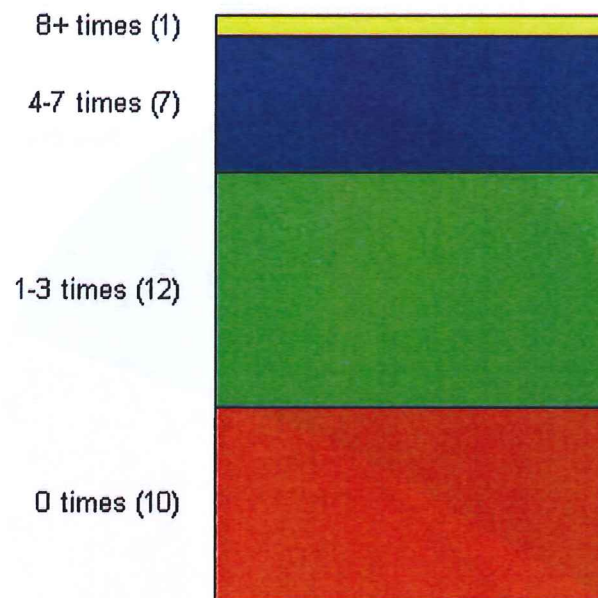
Here, the majority answered that they recycled, many say that they share lifts, save energy and only 3 walk to places or cycle, and 1 person plants trees.

This was interesting to analyse, I did expect more people to say recycle, which is what did happen. The graph, to be honest, looks quite how I imagined it.

Some of the options that were the least popular e.g. walk/cycle and plant trees are actually the ones that could help decrease the effects of climate change the most.

There is a fault in this question on my behalf. The results could be misleading, because maybe people do equal amounts of all 5 options, but had to tick one. But it does still show me which one is more popular, and the results are still useful.

Graph 9: "How often do you use Public Transport?"

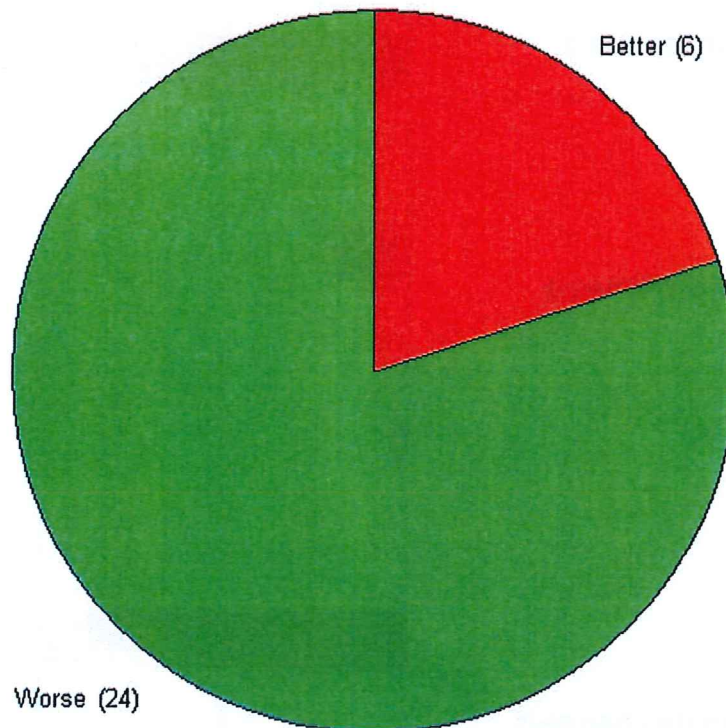


PublicTransport vs Frequency

20 people use public transport at all in a week. A third of the total number of people I asked don't use it at all.

The reason I ask this, is because Public Transport is a good way of reducing emissions of bad gases (CO₂) Eco buses are even available. Public Transport is better than having many different cars travelling to the same destination.

I think people need to be more aware of what does help the environment and help reduce effects of climate change. Most of my graphs lead towards the fact that maybe people don't have a large knowledge of climate change so can't really help.

Graph 10:

The Problem vs Frequency ✓

This is the final question I asked:

"Do you think it's a problem that's getting better or worse?"

I didn't expect to see so many people answering better. Majority did say 'worse'. I wanted to look into why people would think this.

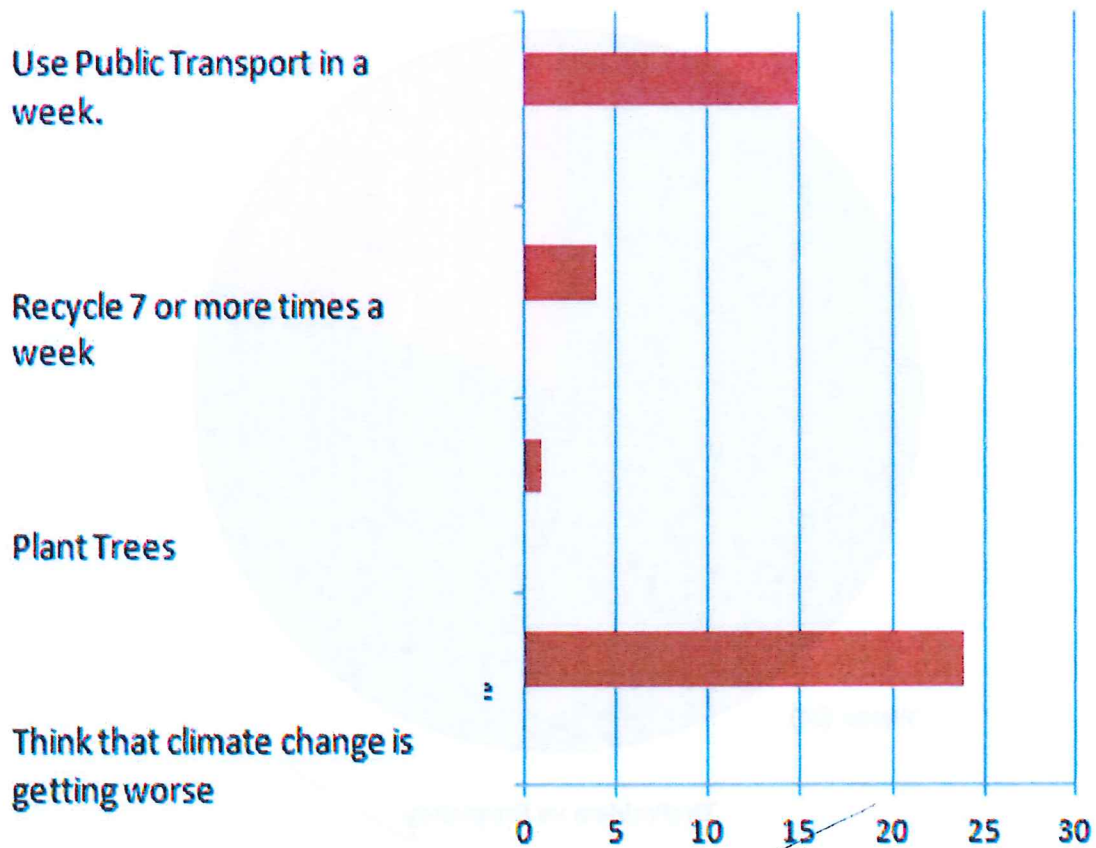
Many said because technology was improving so it can be prevented now, so it will start to get better.

Others said it will get worse because there's a higher demand for factories etc, so more toxic gases released. I will discuss this in more detail, and discuss the real answer; if climate change is getting better or worse.

 ✓

Graph 11:

uses a range of appropriate and effective skills and techniques.



Here I have compared a few of my questions/answers together. I have tried to show, that out of the 30 people I asked, 24 think that climate change is a problem that is getting worse. Then, out of these 24 people- only 1 plants trees. Only 4 recycle 7 or more times a week (which is only once a day) and only 15 (half) of all the people use public transport in a week. This interested me greatly because 24 people say that climate change is getting worse, and actually out of those people, only 16% recycle daily, only 1 person plants trees which is a factor that helps climate change so much. This means these people are contradicting themselves, they say that it's a problem that's getting worse, but they are not helping to reduce it, they are not acting. This again highlights how climate change really is not understood properly.

Successfully organises and presents findings in an effective way

Interview:

I felt, that to make my primary data more reliable, and to be of a higher standard, I should ask a few questions to someone who is high up in this specific field. I wanted to find out some extra information, and have an insight into someone's opinion who has actually studied the subject in higher education. So, I emailed Miss Lynda Yorke, a lecturer in Bangor University for natural science-Geography. I will attach the emails in my attachments or bibliography. Here I show the questions I asked, and the answers I was given, not the whole email. ✓

Dear Eabha,
Here are my answers for you.

Me:1. Do you think it is down to nature's activities or human activities that is to blame for climate change? why?

Climate change is real and is happening, but I think what needs to be made clearer is the difference between natural climate variability and anthropogenically-induced climate change. Over the Earth's history climate has always changed, however, recently (last 50 years) there has been an increasing awareness that humans have played an important role in changing the climate. Anthropogenically-induced climate change is related to 18/19th Century industrialisation. What becomes difficult is to disentangle is which has the bigger influence - short-term it has been humans, but over the long-term it will be nature!

Me:2. Is Wales affected by climate change, and do you think you personally are affected? why?

Yes, absolutely. We are all affected by changing climate. In the last 15 years, I have seen increased episodes of flooding and more stormy weather. These are probably related to a changing climate.

Me: 3. Do Wales have strategies in place to deal with climate change?

Yes, I think Wales and the Welsh Government is doing a very good job at supporting research into climate change. Both the WAG and local councils work together to find solutions to climate change, from investing in university research to understand different aspects of climate change (at a Welsh and global level), to working with communities in Wales on coastal flooding to ensure people and places are protected. ✓

Me:4. What do you think is the main cause of climate change, the main reason that it is happening?

Here it gets more complicated. Over the history of the Earth, the climate has always been changing due to external processes relating to how the Earth travels around the sun, how close it is to the sun and how much it wobbles on its axis. However, over the last 250 or so years since large-scale industrialisation it is now obvious that the impact of humans on the planet has affected the global climate system. Now we can see that 'greenhouse' gases released into the atmosphere during industrialisation is making the planet warmer by trapping heat in. Effects we see now are in our weather patterns, so we get more extreme weather (floods/storms), our oceans are also heating up, which also affects weather systems (cyclones) and ocean fauna, and ice-caps are melting (rising sea-levels). The changes we see probably reflect the influence of a changing climate over recent years.

Me:5. Do you think climate change is an increasing problem, is it getting better or worse?

It is definitely an increasing problem. We cannot ignore it and hope it will go away. The climate system is a very complicated one, so even when we think we understand it, we don't. The system could behave in a complex, unpredictable way in the future because of how humans are affecting the atmosphere. And of course, there is natural climate change to consider as well - that will also have an influence over how climate changes in the near future.

Me:6. Where do you think is more affected by climate change- MEDC, or LEDC. I am using Wales and Bangladesh, so reference to them would be great?

LEDCs are facing great difficulties when it comes to climate change. Those countries are often located in vulnerable geographical locations, like Bangladesh (river delta, rising sea-level, melting glaciers at the top of the catchment) and have less/few resources (poverty, education, money) to deal with and prepare for climate change. Whilst MEDCs, like Wales and the UK, can be better prepared at a government level, it is always the most vulnerable people in societies that will be most affected by climate change. I hope this helps with your project, good luck with your research.

Me: Thank you very much!

✓
Successfully and effectively identifies, selects and uses a range of relevant primary information.

Secondary Data

Here I am going to discuss and analyse secondary data. This is the information I found on the internet. I looked at various useful websites. I have only taken information from websites that are legitimate, and are reliable. I will attach the links to the websites at the end of the investigation.

My findings on Climate Change in general

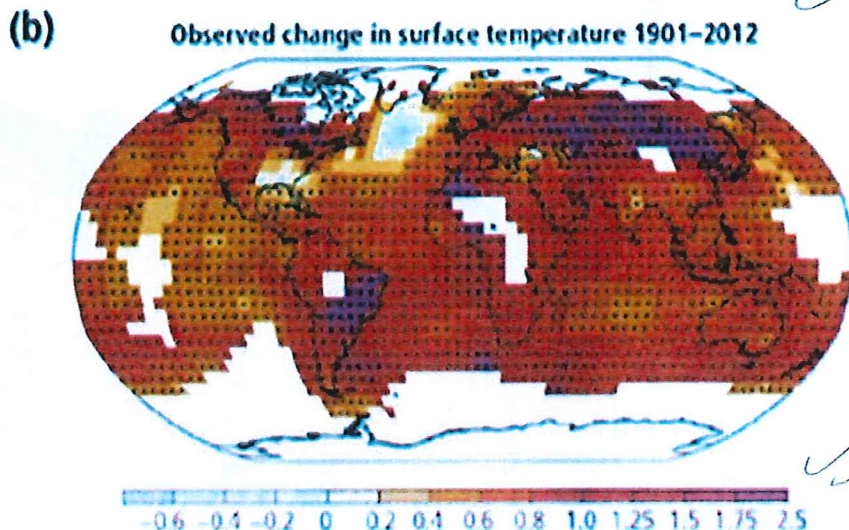
It's the way the world's climate is changing as a result of the level of gases in the atmosphere. However, unchecked climate change is one of the most serious global threats the world faces. It disturbs the pattern of rainfall, sunshine, winds and currents in the oceans. It threatens the basic elements of life for people and environments around the world – for example access to water, food production, health and the use of land.

We can do something about climate change. As a society we need to do two things to tackle the challenge of climate change:

- We need to reduce the greenhouse gases we produce through changing the way we produce and use energy
- We need to prepare for the changes that are already happening because of the greenhouse gases which have already been produced.

We know climate change is happening, global warming- the temperature of the earth is rising. Climate change is definitely occurring. These are graphs I found online that prove climate change-

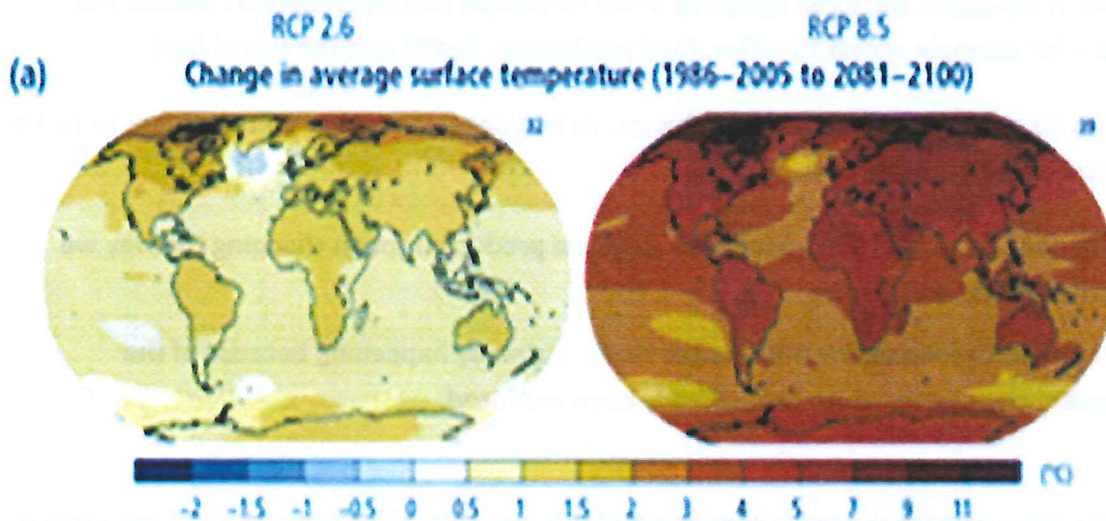
This map, from the report, shows how much hotter we've already made the world since 1901. It's a handy reminder that the warming we've had so far isn't evenly spread – the tropics and higher latitudes have got hotter faster than other regions:



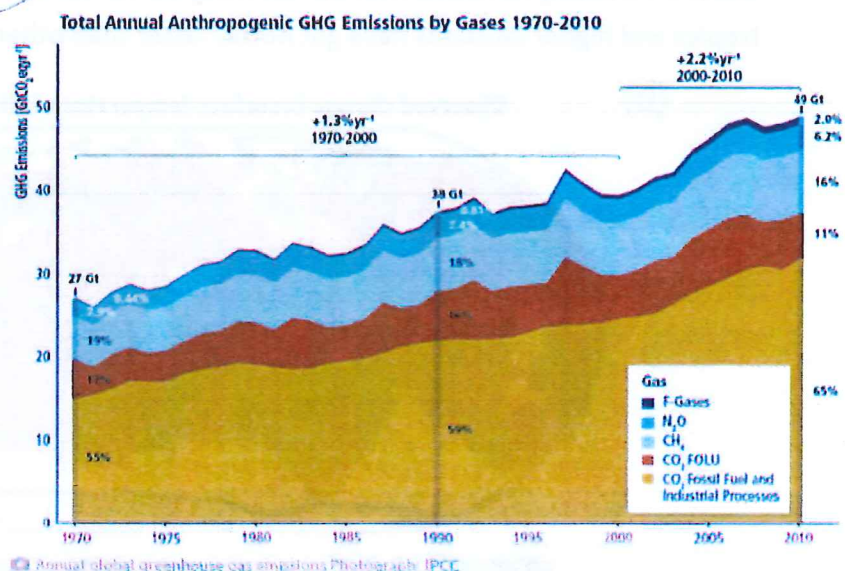
Shows good knowledge and understanding of the topic throughout

Here's how much hotter the scientists say the planet is projected to get. The map on the left shows most places will get another degree or so of warming on top of the 0.7°C we've already experienced globally since pre-industrial times. Unfortunately, that map assumes we're going to dramatically cut our greenhouse gas emissions, and the map on the right is what we're on track for given the record-breaking rate at which we're all pumping out emissions now.

If you're thinking a 5°C rise by 2100 doesn't sound like much, it's worth considering that the global average temperature in the last ice age was only 4-5°C colder than today:



Also, here's why this is all happening. (well a large reason) We're spitting out more emissions than ever before, and it's getting worse. Over the past decade emissions grew at twice the rate of the previous 30 years.



Successfully and effectively identifies, selects and uses a range of relevant secondary information

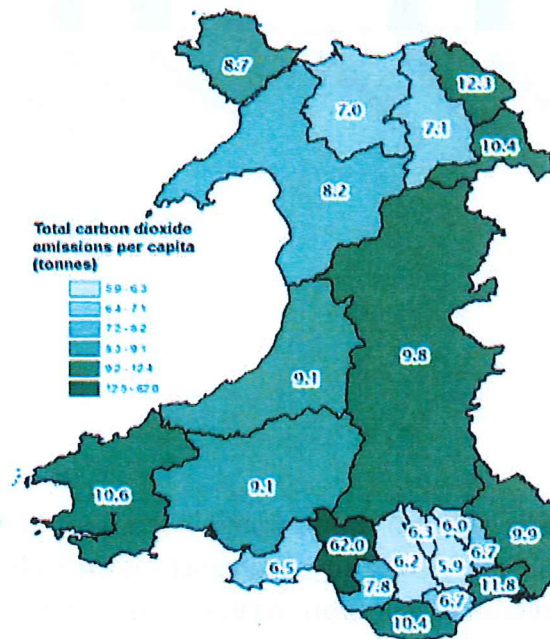
(All of the above graphs I found from the website- <http://www.theguardian.com/environment/2014/oct/31/ipcc-report-six-graphs-that-show-how-were-changing-the-worlds-climate>)

My findings on Wales

How Wales Contribute:

In Wales, the main contribution to climate change is gas emissions. This adds to climate change massively, so we are widely responsible. Here are some statistics about Wales' gas emissions.

Figure 12: Total carbon dioxide emissions per capita, by Welsh local authority, 2010



Source: Research Service
© Crown copyright and database rights 2012.
Ordnance Survey 100047295

(This diagram I got from

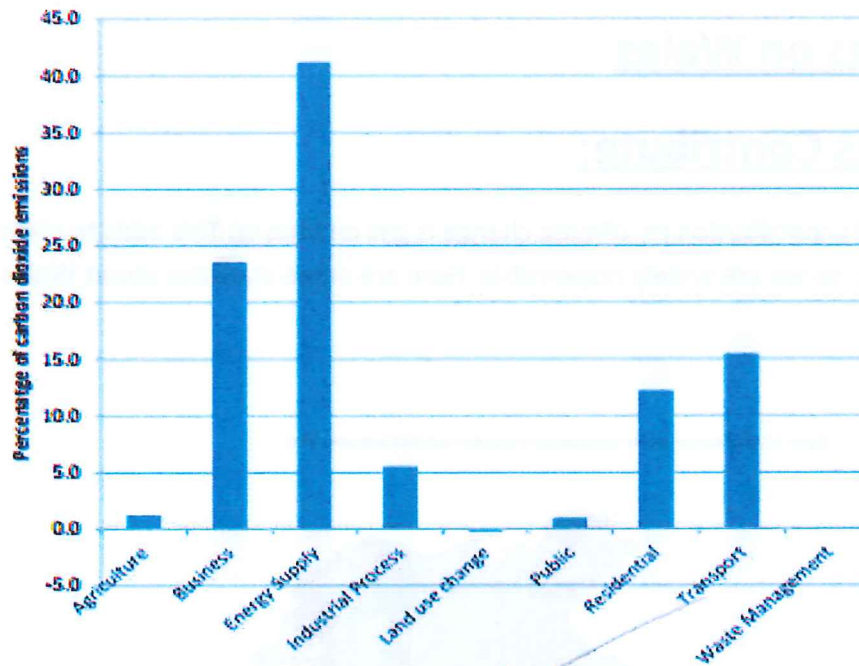
<http://www.assembly.wales/Research%20Documents/Greenhouse%20Gas%20Emissions%20in%20Wales%20-%20Research%20paper-06022013-242880/13-006-English.pdf>)

Includes appropriate references
to Wales.
clearly and adequately presented

It shows that Wales emissions per capita are very high, and judging that Wales is not the largest country, the figures are still large. With Anglesey alone emitting 8.7 tonnes per capita! This statistic/diagram is staggering and shocking.

Also, from the same website, I found this-

Figure 3: Carbon dioxide emissions in Wales by sector, 2010 (per cent)



This is how Wales are emitting gas (CO₂) it shows what Wales are doing, to emit so much CO₂. It's clear that Energy Supply-so Electricity, heating etc. is the highest contributor to the emissions. The business emits a lot. Not surprising that Transport does as well. Wales need to improve this in order to help climate change.

So, what happens if there is no change...

If change does not occur, Wales (and other places) will suffer, and be affected. Wales will be/is being affected, the main noticeable changes are **increase flooding**.

I copied this quote directly from - <http://www.walesonline.co.uk/news/wales-news/climate-change-bring-more-wet-6253475>

“Wales can look forward to more wet weather as the effects of climate change become more extreme in the coming decades, climate experts.

The warning came as scientists assessed the impact on Wales of climate change following the Intergovernmental Panel on Climate Change's (IPCC) latest report published last month. The UN's climate panel said it was 95% certain that humans are the “dominant cause” of changes to the planet's climate.”

W • NEWS • Wales News • GO GREEN

Flooding in Wales fuels worries over impact of climate change

This heading is from an article online- <http://www.walesonline.co.uk/news/wales-news/go-green-climate-change-concerns-2493604>

It says that the concern about climate change in Wales is much greater than it was even just 2 years ago. There has recently been a huge increase in flooding. This is expected to be due to climate change.

“Last year was a difficult time for many people in Wales, with serious flooding occurring in several areas of the country. While is not possible to pin the blame for any single event directly on climate change, we do know that in the future we can expect more of exactly this sort of disruption.”

Successfully and effectively identifies, selects and uses a range of relevant secondary information

Appropriate references to Wales clearly and adequately presented.

This is evident in the news recently-



This is an image of the effect of flooding (so climate change) on Aberystwyth in 2012. So Wales are affected.

"Extreme weather causing flooding, deaths from the cold and falling on ice as well as the knock on effect of fuel poverty. And instances of freak flooding in Wales could become more frequent."

Are there strategies in place to help in Wales?

Wales have strategies in place to deal with Climate change. Wales have set out ambitious commitments to tackle the causes and consequences of climate change in a sustainable way in Climate Change Strategy for Wales. Welsh Government stated

"Our approach sets the stage for Wales to be a leader. To take advantage of all the opportunities which come with anticipating and moving ahead of a changing world and make decisions on what a low carbon, resilient Wales could look like."

This shows that Wales do have strategies in place. It's important to help with the effects climate change, **"Climate change is challenging the ideas and practices of industrial civilisation, putting at risk both lives and livelihoods, whilst also threatening the very survival of many species of plants and animals. It is, therefore, imperative that countries**

such as Wales act urgently and effectively to limit greenhouse gas emissions from human activities to within 'safe' and sustainable limits."

(From - <http://gov.wales/topics/environmentcountryside/climatechange/?lang=en>)

I found a website with the specific strategies also-

These are the strategies Wales have in place-

- The current scientific evidence about climate change and the impacts we might expect to see in Wales and across the world
- The need for urgent action to reduce greenhouse gas emissions, and to prepare for the impacts of climate change
- Our role in leading and supporting action on tackling climate change, and the roles of other organisations in taking action
- How the Strategy supports our Sustainable Development Scheme, 'One Wales: One Planet', and how both together will help deliver our vision of Wales in the year 2050
- Our key target to cut greenhouse gas emissions by 3% per year in areas we control.

(This is from the website-

<http://gov.wales/topics/environmentcountryside/climatechange/publications/strategy/?lang=en>)

Here is some extra information that I found-

Ministerial foreword



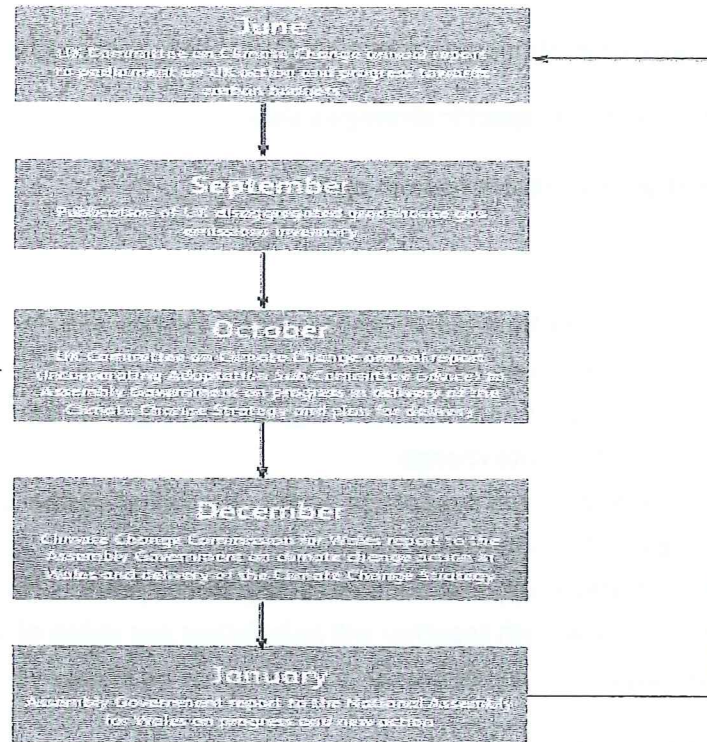
Climate change is a huge challenge, but we have an opportunity here in Wales to lead the way, demonstrating how we can put the vision in *One Wales: One Planet* into practice and move decisively towards only using our fair share of the Earth's resources and doing so in a way that promotes a fairer and more just society.

This Climate Change Strategy, and the two delivery plans that accompany it, represent an important milestone in action on climate change in Wales.

The Strategy confirms our level of ambition in tackling the causes and consequence of climate change but it also recognises that the science demands even more of us - and of governments and populations around the world.

Wales
have to
follow
this cycle
yearly-

Fig 3. Anticipated annual progress reporting cycle for the Climate Change Strategy



(These two screenshots are from-

<http://gov.wales/docs/desh/publications/101006ccstratfinalen.pdf>)

Saying "One Wales; One Planet". Clearly, Wales are responsible, and are needed to help climate change.

At the moment Wales have many targets that they need to meet in order to help climate change. I researched this, and found some examples:

- "The National Assembly called for the Welsh Government to reduce emissions by 40% by 2020 against the 1990 baseline. Since 2011, the Welsh Government has also been committed to reduce greenhouse gas emissions by 3% per year in devolved areas of policy."
- "Wales is making progress, we are not currently on track to meet our 40% target"
- "In WWF Cymru we are working with politicians, the public and business to ensure that the Government delivers on its ambition. We also jointly

campaign with other organisations in the Stop Climate Chaos Cymru coalition."

- "We also need to address how we use energy, 57% of Welsh homes are in the three worst performing categories when it comes to energy efficiency. Our research shows that bringing these homes up to a decent standard would cut fuel poverty, create thousands of jobs and cut the housing sector's carbon emissions by a quarter."
- "And we need to develop a low carbon economy in Wales. This means building on the success of our current green sector. In 2011, more than 41,500 people in Wales work in what are classed as low-carbon or environmental jobs - more than the motor trade or financial services. But we also need to support all businesses in the transition to a low carbon future."

The above are all from the WWF website-

[http://www.wwf.org.uk/what we do/tackling climate change/how we are tackling climate change/tackling climate change in wales/](http://www.wwf.org.uk/what-we-do/tackling-climate-change/how-we-are-tackling-climate-change/tackling-climate-change-in-wales/)

✓ sources are suitably referenced within the investigation.

The Renewable Energy Planning Database gathers information from Local Planning Authorities and developers on renewable energy projects that have been through the planning system. As of the end of June 2013, there were 90 operational renewable energy projects in Wales listed in the database, with a total capacity of approximately 760 MW. Additionally, there are 72 approved applications which if all built have a potential additional generating capacity of 2,200 MW. A further 48 applications (1,000 MW total installed capacity) have been 'submitted' to consenting bodies and are awaiting decisions.


Currently, the renewable energy projects with the greatest installed capacity are Rhyl Flats offshore wind farm (90 MW), North Hoyle offshore wind farm (60 MW) and Cefn Croes onshore wind farm (58.5 MW). Several large-scale projects have gained consent, including Gwynt-y-Mor offshore windfarm (576 MW), Port Talbot biomass plant (350 MW), Anglesey biomass plant (299 MW) and the Pen-y-Cymoedd onshore windfarm (256 MW).

Renewable projects with an installed capacity less than 5 MW are eligible for feed-in-tariffs from the UK Government. As of July 2013, over 28,000 projects with a combined installed capacity of about 93 MW are receiving feed-in-tariffs. About 97 per cent of these projects are domestic installations and 97 per cent of these are solar photovoltaic.

This was found on -

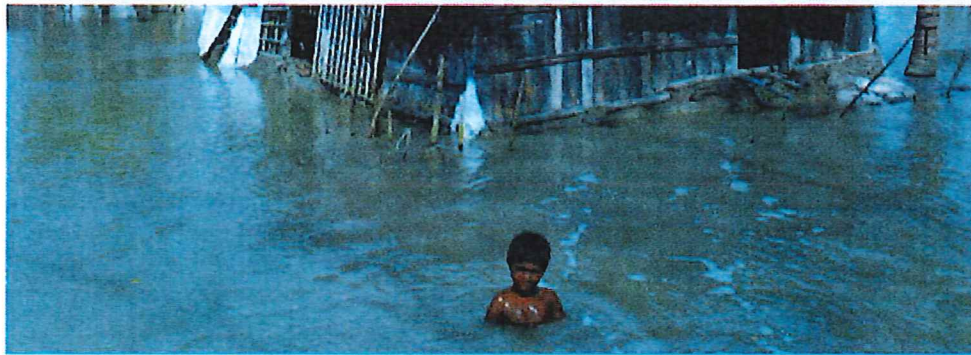
<http://www.assembly.wales/Research%20Documents/Renewable%20Energy%20in%20Wales%20in%20figures%20-%20Research%20paper-12082013-248986/13-059-English.pdf>

Wales have enough money to set up programmes, to try and meet these targets and ambitions, fund renewable energy stations to reduce emission levels, e.g. Wales have many wind farms, hydroelectric power sources and more! All of these help climate change. So Wales are fortunate in that way.



My findings on Bangladesh

How Bangladesh Contribute:



So how much does Bangladesh actually contributes to global warming?

Bangladesh contributes 1% of global greenhouse gas emissions, nothing compared to China and the US, who are the world's largest contributors to carbon dioxide emissions. A fact I'm sure is nothing new.

The bitter irony is that many of the places which may suffer the worse effects are places contributing the least to climate change causes". It does not seem fair that one part of the world suffers, whilst the other part is oblivious to the sufferings.

They do not contribute a lot to climate change.

Found from - <http://www.restlessbeings.org/humanitarian/climate-change-bangladesh>



For many of us in the industrialised countries climate change is a concern of the future, leaving the least developed countries to bear the brunt of it.

Bangladesh is one of the poorest countries in the world; it lies between the Himalayas in the north and the Bay of Bengal to the south making it prone to climate change. Almost 80% live in rural areas; agriculture is the largest producing sector in the economy with more than 45% of the labour force employed in it. With its high population density and the occurrence of extreme climate events, poverty-stricken Bangladesh is no stranger to natural disasters. The biggest and the most frequent natural disasters in Bangladesh are caused by flooding which has huge "economic and human loss". Infrastructure is underdeveloped and extreme flooding makes it difficult to build modern transportation and communication networks.

Bangladesh has already witnessed extreme weather events and sea levels rising, which will only continue to magnify. "Melting glaciers in the Himalayas are already causing sea levels to rise, and scientists say Bangladesh may lose up to 20 percent of its land by 2030 as a result of flooding". Severe flooding may be of concern if the melting glaciers disrupt the three rivers in Bangladesh - the Jamuna-Brahmaputra, the Padma and the Meghna. The Bangladesh Climate Change Strategy Action Plan published in 2009 predicts that 6-8 million people will be permanently displaced by 2050.

This here, found on - <http://www.restlessbeings.org/humanitarian/climate-change-bangladesh> shows us the effects of climate change on Bangladesh. It shows us that they are not really to blame, but are affected. This website states that Bangladesh is a poor country, suffering from poverty, and climate change does have a huge impact on them.

By researching on the internet, and analysing secondary data, it's clear that flooding is the main impact of climate change on Bangladesh-

✓ candidate includes appropriate references to a Bangladesh perspective clearly and adequately presented.

Bangladesh is an LEDC. The land is densely populated. Most of the land forms a delta from three main rivers - Ganges, Brahmaputra and Meghna - and 25 per cent of Bangladesh is less than 1 m above sea level. Flooding is an annual event as the rivers burst their banks. This seasonal flooding is beneficial as it provides water for the rice and jute (two main crops in the area) it also helps to keep the soil fertile. Bangladesh also experiences many **tropical cyclones**. The low-lying land means it is easily flooded. Half the country is less than 6m above sea level. The snowmelt in the Himalayas adds water into the main rivers. There are human causes too - building on the floodplains and cutting down trees both increase the effects of flooding.



A huge 25% of Bangladesh is actually less than 1 metre above sea level. Flooding is the norm, and is extremely frequent there. The passage states that this could be because Bangladesh lies on the delta from three main rivers. There are many, many disadvantages, and also, some advantages to this natural disaster –

There are advantages to living here:

- ✚ The flat floodplains of the delta are very **fertile**. Rice is grown.
- ✚ The area can also be used for shrimp farming.

There are disadvantages too:

- ✚ The low-lying islands are very vulnerable and flood easily. It is difficult to protect them.
- ✚ There are poor communications. Many locals do not own their own telephone or television so it is difficult to give successful flood warnings.



Successfully and effectively identifies and selects a range of relevant sources from a Bangladesh perspective

The flooding in the long run does help make the ground more fertile, and help farming industry, but there are more disadvantages, their vulnerability to flooding is a really dangerous situation, which is hard to avoid.

This is from -

http://www.bbc.co.uk/schools/gcsebitesize/geography/water_rivers/river_flooding_management_rev6.shtml

The climatic impacts are... (<http://www.ncdo.nl/artikel/climate-change-its-impacts-bangladesh>)

Climatic Impacts:

Bangladesh experiences different types of Natural Disasters almost every year because of the Global Warming as well as Climate Change impacts, these are:

Floods / Flash Floods (Almost 80% of the total area of the country is prone to flooding).

Cyclones and Storm Surges (South and South-eastern Parts of the country were hit by Tropical Cyclones during the last few years).

Salinity Intrusion (Almost the whole Coastal Belt along the Bay of Bengal is experiencing Salinity problem).

Extreme Temperature and Drought (North and North-western regions of the country are suffering because of the Extreme Temperature problem).

Clearly Bangladesh are prone to being affected badly by climate change.

As well as these environmental/physical impacts, there are social and economic impacts. These include-

- **Agriculture and fisheries-** affected because the majority of the population relies on these industries so are socially affected. The climatic impacts affect the industry greatly, their income decreases, because their crop yield decreases, so the people are greatly affected. Bangladesh people need fish for protein, and almost all of the 260 species of fish there, are sensitive to change in sea water, which is what climate change does.

- **Water Resources and Hydrology:**

In a high density country like Bangladesh, the effects of Climate Change on the Surface and Ground water resources will be very severe and alarming. Changes to water resources and hydrology will have a significant impact on the country's economy, where people mostly depend on the Surface water for Irrigation, Fishery, Industrial production, Navigation and similar other activities.

- **Coastal Areas:** Almost one fourth of the total population of the country live in the coastal areas of Bangladesh, where majority of the population are somehow affected (directly or indirectly) by Coastal Floods / Tidal Surges, River-bank Erosion, Salinity, Tropical Cyclones etc. With the rise of Sea-level up to one meter only, Bangladesh could lose up to 15% of its land area under the Sea water and around 30 million people living in the coastal areas of Bangladesh could become Refugees because of Climate Change impacts. Agriculture, Industry, Infrastructure (School, Hospitals, Roads, Bridges and Culverts etc.), Livelihoods, Marine Resources, Forestry, Biodiversity, Human Health and other Utility services will suffer severely because of the same. Salinity Intrusion from the Bay of Bengal already penetrates 100 kilometers inside the country during the dry season and the Climate Change in its gradual process is likely to deteriorate the existing scenario to a great extent. Since most of the country is less than 10 meters above Sea level and almost 10% of the population of the country is living below 1 meter elevation - the whole coastal area is Highly Vulnerable to High Tides and Storm Surges. Moreover, the Bay of Bengal is located at the tip of the north Indian Ocean, where severe Cyclonic storms as well as long Tidal waves are frequently generated and hit the coast line with severe impacts because of the Shallow as well as Conical shape of the Bay near Bangladesh.
- **Urban areas:** Cities and Towns situated along the Coastal belt in Bangladesh are at the Front line of Climate Change related Disaster impacts and could experience a severe damage directly because of the Sea level Rise and Storm Surges at any time. Direct impacts may occur through the increased Floods, Drainage congestion and Water logging as well as Infrastructure Damage during extreme events. The important Urban sectors that suffered severely by the previous floods in Bangladesh include Urban Infrastructure, Industry, Trade, Commerce and Utility services etc. As consequence, it hampered usual productivity during and after major floods and hence increased the vulnerability of the urban poor by many folds. It should be mentioned here that, around 40 per cent of the urban population in Bangladesh lives in the Slum and Squatter settlements of the major cities which are highly prone to Disaster risk during Flooding further.
- **Vulnerable groups:** The Urban poor are therefore directly at the risk of Natural Disasters being enhanced by the impacts of Climate Change - especially in the absence / shortage of the necessary Infrastructure as well as Employment opportunity for them in the major cities of the country. In Bangladesh, Women are especially Vulnerable because of the Gender inequalities in the Socio-economic and Political institutions. During the 1991 Cyclone and Storm surge in Bangladesh, the death rate in case of women was almost five times higher than the men. Because men were able to communicate with each other in the public spaces, but the information did not reach most of the women timely.

As the research goes on, it becomes more and more evident that Bangladesh really is badly affected by climate change, and flooding is one really the main impact.

From- <http://www.ncdo.nl/artikel/climate-change-its-impacts-bangladesh>

Is this fair? Who is actually to blame for this injustice?

Who is to blame for this injustice?

Generally, climate change was due to natural causes however; today it is evident that climate changes have been sped up by man's activities.

"There is very strong evidence that people are changing the climate with actions that create emissions of greenhouse gases like carbon dioxide and methane. In the UK, 40 per cent of CO2 emissions are caused by individuals, mostly from energy used in the home, driving and air travel". Clearly, we are more oblivious to climate change than those who are directly affected by it. For us it is a threat of the future therefore, we take little consideration of the usage of greenhouse gases.

Bangladesh are not actually to blame, they are not letting off the toxic gases as much as other countries.

Does Bangladesh have strategies in place to deal with climate change?

The future of Bangladesh

As Bangladesh has little power to prevent climate change, they have instead turned their focus on solutions. One solution is boats, according to Abul Hasanat Mohammed Rezwan, who is an architect and has established a charity organisation in Bangladesh - [Shidhulai Swanirvar Songstha](#) states "[for Bangladesh, boats are the future](#)".

Trying to fight global warming for the west means cutting down on air conditioning usage. But for Bangladesh it means "[modern-day versions of Noah's ark](#)" will be used for accommodation and transport. However, living in boats does not solve the problem at hand, "[in some ways is a band-aid to the larger problem](#)". Long term solution is needed but, how effective it will be is anyone's guess.

They do not really have any structural strategies for the future. Their strategies are short term, and won't help the problem directly. Bangladesh are too poor to put long term strategies in place to help prevent effects of climate change.

They do get some help, projects are funded, but they cannot deal very easy at all with the impacts climate change is having on them.

How can the risk of flooding be reduced?

Bangladesh is an LEDC and therefore does not have money to implement large schemes.

It is always going to be threatened with flooding, so the focus is on reducing the impact.

The Flood Action Plan is funded by the world bank. It funds projects to monitor flood levels and construct flood banks/artificial levees.

More sustainable ways of reducing the flooding include building coastal flood shelter on stilts and early-warning systems.



House on stilts, on low lying land

From -

http://www.bbc.co.uk/schools/gcsebitesize/geography/water_rivers/river_flooding_management_rev6.shtml

Conclusion

To conclude, I am going to see if I successfully answered the question I set myself at the beginning of the investigation, by briefly looking over my primary and secondary data. The question was:

Where is more affected by Climate Change, a Less Economically Developed Country (LEDC) or a More Economically Developed Country (MEDC)?

It's clear that because of where Bangladesh is situated, it is more vulnerable to climate change than Wales, and the impacts are different, but the main impact in both countries was flooding. So, I used flooding because I felt it was an impact that I could compare between the two countries. This helped me be able to compare them, and Bangladesh was much more affected, with industries and lives ruined, people left with no homes or jobs, and loss of lives. Wales were also affected, but not as much. ✓

This is not just because Bangladesh lies in a flood prone area, yes it does, but this is because of many other reasons as my research shows. Bangladesh is extremely poor, an LEDC, yes, it is in a more vulnerable area to be flooded than Wales is. So they suffer more, but still, even if Wales and Bangladesh were equally likely to be targeted by flooding, the effects on Bangladesh would still be much worse. ✓

Bangladesh suffer because it is a poor country, this means that they cannot have long term strategies in place to cope with the effects, as my research showed they do not have enough money to implement long term schemes, that will help on the large scheme of things, they can do very simple things, that are not costly, but do these help enough? It is always going to be threatened with flooding, so the focus in Bangladesh is on reducing the impact, but not preventing it. The Flood Action Plan is funded, by projects and fundraising. To even reduce the impact so much has to be done. ✓

More sustainable ways of reducing the flooding include building coastal flood shelters on stilts and early-warning systems, but these really aren't enough to secure safety to the people living in Bangladesh. ✓

Candidate shows a good knowledge and understanding of the topic throughout

An MEDC- Wales, contribute more to climate change, they have more money, so more people have cars, gadgets, more people have electricity etc. All of the above require the use of factories, and because people have the money, they are able to buy these items, demanding more factories to be run, and also people have money to go abroad, use planes and other form of travel- all of the above add to climate change, toxic gases released affect the world, so increase in weather change- hence the increase in flooding recently. ✓

MEDC'S by doing this affect their country, but it is clear that their actions affect LEDC'S more. They are more affected, I researched unto this, and discovered that factories are in LEDC'S because large companies can make more money, and pay staff less. So, the LEDC'S are more affected by the MEDC'S demand for goods, because factories release toxic gases into THEIR country, this isn't fair. ✓

Bangladesh doesn't have enough money to; number one-stop factories from being built in their country, because people need money, and this is a way of getting people employed. So consequently to this, secondly, they have no way of controlling the impact climate change is having on them, because they have no choice other than to allow it. This is all because they are a LEDC. ✓

An MEDC like Wales, simply isn't affected as much, the factories are not targeting us exactly because they are situated here, yes climate change affects us, but the effects are much less. Wales have enough money to put long term strategies in place, such as helping Wales live a more economically friendly, helping set up programmes to guarantee that Wales meet their recycling targets etc, and make sure they reduce the amount of energy used. All of these things will help them be less affected. Going back to flooding, Wales can get back on their feet so much quicker than Bangladesh. They can recover, and bounce back, homes and buildings can be re-built, people can be helped, and the Government have money aside ready. Bangladesh does not. ✓

The above is my secondary information. My primary information was also very helpful in the process of drawing a final conclusion. My answers from the questionnaires helped me see how Wales currently feel they are affected by climate change, nearly 50% of the people I gave the questionnaire to, said they are not affected, if I gave this to someone in Bangladesh, I highly doubt anyone would say that it is not a problem. This is because Wales can deal with climate change, and the effects are less, clearly, because some people don't even realise them at all. Climate change does not affect everyone's lives in Wales, but in Bangladesh it is a different story, every single person can be affected, agriculture is affected-jobs lost, homes ruined- no money to be re-built, and so on. ✓

Another result I got from the questionnaire's that helped me was that nearly 75% of the people I gave the questionnaire to, weren't aware of any strategies Wales had in place, this showed me two things- that clearly people are not really aware of what is happening, it shows me the lack of education into this important subject, and it shows me how Wales yes have money and they do have strategies, but they clearly have not shared there ideas enough with the citizens of Wales, so I find it hard how they expect them to be able to help decrease climate change. I personally do not think they need to know of the strateguies to help Wales themselves, but to help LEDC'S, because if Wales do stick to their strategies, then the demand for energy, factories etc would decrease and LEDC'S could be less affected by climate change. ✓

The Interview I did helped me also, and I found it so interesting. I asked her whether or not she thought human's or nature were to blame- this may not seem relevant, but I wanted to know if climate change was something that could not be helped, and depended solely on the location of the country, or if it was down to humans. She said that it has recently been shown to be humans, so I could then look into that aspect more in my secondary information. This was one of the many questions that I asked and found extremely helpful in my investigation. But I have to mention the final question I asked- the question my investigation in about. ✓

She told me that Bangladesh lay on a delta, so it was more vulnerable to flooding, but that it was more affected because of the poverty it suffered from, because it did not have the resources to provide higher education for people to be able to help the matter and come up with good ideas, they simply do not have enough money. Whereas Wales are better prepared. This interview honestly helped me greatly to come to my final conclusion.

So, using all of my data, I coclude by saying that LEDC'S (Bangladesh) are more affected by climate change than MEDCS (Wales). ✓

Candidate draws a
range of relevant
conclusions including
from a Wales and
Bangladesh perspective

Evaluation

Strengths:

I feel that I did a lot of research into both countries during the investigation and received detailed and factual information on both countries. I also now feel that I have a good and mature understanding of Climate change and the issues it presents. I worked independently throughout the investigation and feel I worked well. Another part of the investigation where I feel I did well was analysing my primary data

Weaknesses:

I feel that I could have analysed my secondary data much better, I felt it was unorganized, and was not structured well. I also could have made much better use of textbooks and newspaper articles, and I should have added more graphs to highlight my research. I also feel I could be more time efficient so that I had less to do a few days before the deadline. Overall I feel I worked well, but could improve in some areas.

Evaluation of Work:

I feel that my work was well presented and contained detailed information on Climate Change in both Wales (MEDC) and Bangladesh (LEDC). I also think that the case studies were appropriate and that the investigation was overall easy to read and to use.

On the other hand, I do feel there were many aspects that could be improved. For example, I would like to be able to include more attachments and to go into more detail in the bibliography (See end of investigation), and I feel I could have made my work more organised, with a better structure.

I enjoyed researching Climate Change in both MEDC'S and LEDC'S, and gathering information and I feel that I successfully answered the question that I set myself at the beginning of the investigation.

Makes some appropriate and valid comments on strengths and weaknesses of own performance.

Bibliography and Attachments

These are all of the websites used to help me draw my conclusion-

<http://www.assembly.wales/Research%20Documents/Renewable%20Energy%20in%20Wales%20in%20figures%20-%20Research%20paper-12082013-248986/13-059-English.pdf>

http://www.bbc.co.uk/schools/gcsebitesize/geography/water_rivers/river_flooding_management_rev6.shtml

<http://www.ncdo.nl/artikel/climate-change-its-impacts-bangladesh>

http://www.ipcc.ch/publications_and_data/publications_and_data_supporting_material.shtml

<http://www.restlessbeings.org/humanitarian/climate-change-bangladesh>

[http://www.wwf.org.uk/what we do/tackling climate change/how we re t ackling climate change/tackling climate change in wales/](http://www.wwf.org.uk/what_we_do/tackling_climate_change/how_we_re_tackling_climate_change/tackling_climate_change_in_wales/)

<https://www.theccc.org.uk/wales/>

<http://www.walesonline.co.uk/news/wales-news/go-green-climate-change-concerns-2493604>

<http://gov.wales/topics/environmentcountryside/climatechange/publications/strategy/?lang=en>

<http://www.walesonline.co.uk/news/wales-news/climate-change-bring-more-wet-6253475>

✓ Sources are suitably referenced within the investigation and using a bibliography

Bibliography

Source	Title/Details	What did you use this information for?	How was this source useful?
e.g. Internet	www.wag.wales.gov.uk	To find figures on unemployment in Wales for the last 2 years.	The graphs helped me understand how many people are unemployed in Wales.
Book.	GCSE Geography Book.	To find some information to further my knowledge.	Helped me talk about the subject with more understanding.
Internet	www.monblythel.org .	Getting figures and statistics about climate change in Wales.	Helped improve my secondary information.
From my teacher. Internet	GCSE Geography Teacher.	Help me with my introduction to climate change.	Improved my performance.
Website.	www.gcsebitesize.com . /geography/climate change.	Secondary Information.	Had a lot of useful information on climate change in Bangladesh.
Internet	www.ncdo.nl .	my secondary data.	Inputs of climate change in Bangladesh
Internet	www.ipcc.ch .	data and supporting statistics.	To put in my secondary information about Bangladesh.
Internet	www.wwf.org.uk	Secondary Statistics, and helped support my understanding.	Information on how the countries were tackling climate change.
BBC-News/online.	www.bbc.com/news .	About Wales, real information on Wales-climate.	Reliable some showing information about happening in Wales proving climate change.

