Green Gown Awards 2016

Finalist's case study

Dissemination supported by: HEFCE Higher Education Funding Council for England

Coventry University

Research and Development - Student

Will Barber

Profile

- Higher Education
- 23,890 students (includes full and part time students)
- 3,275 staff
- Urban

Category supported by SALIX SOLVING ENERGY EFFICIENCY FINANCE IN THE PUBLIC SECTOR

About the project

Summary

'Changing seas: A participatory case study assessment of vulnerability and adaptation to climate change in UK inshore fisheries.'

To obtain an honours degree at Coventry University, all students must complete a dissertation during their final year. As an increasingly important topic, sustainability is now the subject of a collection of projects each year. This example was undertaken by a 3rd year Geography BSc student as their final year project. The project explored the impacts of climate change upon the UK inshore fishing industry; within the context of the socioecological system they are a part of, and identified sustainable adaptation options at multiple levels to promote system resilience.

Project partners

No third parties were involved in this project.

The results

The problem

Climate change is an ongoing threat to society, so it is important to research how this can impact industries and how they can prepare and protect themselves from potential impacts. Will's project was pioneering in using fishers' knowledge to help assess the implications of climate change upon marine systems.

The approach

At Coventry University, our students are passionate about understanding these threats and identifying sustainable adaptation options to make industries more resilient. Will Barber, a physical geography student undertook a dissertation project on "Changing seas: A participatory case study assessment of vulnerability and adaptation to climate change in UK inshore fisheries." This research was based upon a vulnerability adaptation policy assessment framework first used by Füssel and Klein (2006) which allowed the student to analyse the potential impacts of climate change and ways to reduce the effects. Will continued to work on the project with the Centre of Agroecology, Water and Resilience at the University following completion, has presented to multiple audiences, and is aiming to publish findings in the academic journal "*Global Environmental Change*".

Our goals

Coventry University is concerned about the impacts of climate change, both now and in the future. Research undertaken within the university should also have a positive impact on society. This project reflects these values both directly and indirectly through helping vulnerable individuals and communities.

Obstacles and solutions

Obstacle	Solution
Finding a project that is realistic and ambitious.	Find a knowledge gap that delivers more beyond the completion of your degree and benefits society.
Fishermen had more pressing concerns other than climate change such as quotas, markets and the weather in general.	During interviews, Will related climate change to the other stresses which fishermen face in a non-climatic context.

Performance and results

The study found that there were four main climatic pathways which could affect marine socio-ecological systems: sea temperature changes, changes in storminess, ocean acidification and sea level rise. These four pathways have the potential to impact all three pillars of sustainability: environmental, social and economic, the primary reason for this is that the fishing industry is dependent on the environment to ensure the socio-economic well-being of communities.

Direct financial benefits are difficult to quantify, but increasing understanding of how climate change may impact industries will allow them to prepare for the future and develop sustainable practices to adapt to climate change. There is evidence that climatic phenomena can have a financial impact on the fishing industry, for example the 1997-8 El Niño phase led to a loss of US$26.3 million from the Peruvian anchovy fishing industry. As climate change is a longer-term issue than El Niño, the overall impacts may be even more severe. Knowing the likely impacts will in turn ensure that fishers are prepared for the impacts of climate change and therefore adapt in enough time to not face financial losses. Therefore, although not quantifiable, understanding how climate change will impact the operations of fishers including fish species available and changes in weather patterns will have an extensive financial benefit to the industry.

A gap in current research was identified. Most research has focused upon modelling ecological changes, but this had not managed to understand both past and future effects of climate change upon the fishing industry and associated livelihoods, particularly at the local and community level. The importance of this current lack of understanding is noted in the 2013 MCCIP science review. Fishers' observations did not always show the same as past studies have done, this different method of research therefore consults those who will be affected by the findings the most. It addresses the social aspect of sustainability, by involving people and encouraging them in their own adaptation initiatives to ensure their own livelihoods.

The future

Lessons learned

1 Listen to and understand the main issues affecting livelihoods and communities before discussing sustainability, so people are engaged and sustainability is explored in the context of the situation.
2 Carry out research which addresses knowledge gaps and then ensure the findings are communicated.
3 Inspire others to work towards sustainability goals as much as possible.

Sharing your project

- The project is on display for students to view in the subject library
- In October 2015, Will presented the project to researchers at the Centre of Agroecology, Water and Resilience at Coventry University. Research summaries were disseminated to over 50 research staff and students.
- In November 2015, Will presented the project to an audience of 30 social researchers at the Countryside and Community Research Institute in Gloucester, many of whom are involved in European research projects.
- In October 2016, Will is presented the project and lessons learnt to over 100 final year Geography and Disaster Management students, to inspire further sustainability research with real impact.
- In August 2016 Will provided research summaries to the 21 fishers interviewed and offered further correspondence.

What has it meant to your institution to be a Green Gown Award finalist?

Being a finalist is a testament to the continued dedication Coventry University has towards our students and sustainability. It underlines the University's long-term commitment to developing students into future leaders and the importance of the values and ideas they establish whilst studying at university which will be taken with them into the future world.

Further information

Email: envteam.est@coventry.ac.uk
Website: http://www.coventry.ac.uk/