Test Tube:
A survey of environmental knowledge amongst Londoners

By Rachel Jones **Supervised by Dr Helen West**

It's 7 am and your alarm goes off. You jump up and gobble some organic, locally produced breakfast. Then it's on your bike to your geothermally-powered office, stopping off at the recycling bank on the way.

If this sort of thing is your typical morning then you're pretty unusual. But when we live in such a media-driven society, where the problems of climate change and water shortages make the news daily, why is it taking us so long to change our lifestyles?

Climate change is becoming more and more evident every day, and the scientific evidence continues to mount up and confound even the most stringent of skeptics. Yet it seems that what we know and how we live are increasingly disconnected. For example, a 2003 Greater London Authority (GLA) survey revealed that 81% of Londoners questioned considered renewable energy a fairly or very good idea, but 53% were not willing to pay extra for 'green' energy.

So how can this be improved? As microchip wheelie bins are arriving on the doorsteps of households across the country, it seems that local authorities are opting for 'penalty and reward' schemes to tackle environmental problems. This is practical as the biggest impact is always felt in the pocket. However, many social scientists believe this sort of thing should go hand-in-hand with education and scientific literacy in order to be a success (Cunningham and Stubbs 2003). For example, Rowan-Robinson *et al* concluded that greater public access to environmental information is likely to promote the notion of stewardship of the environment.

It seems to be the case that the media are the science teachers of the public. The Nature Conservancy Council found that 73% of respondents surveyed in the UK obtained most of their information about wildlife through television and a further 26% through newspapers. Yet it is no secret that in recent years, science in the media has come under criticism, particularly with regard to climate change.

Firstly, eco-apocolyptic headlines making predictions of doom and gloom attract attention but could be desensitising the public to the real issues and render 'green' activities as useless (Goldacre 2005). Another problem is a communication gap between scientists and journalists, resulting in media stories being scientifically wrong.

90% of science journalists have no scientific qualifications (Hartz and Chappell 1998). However, they would prefer to present tentative survey results as scientific fact before the work has been subject to peer-review. Little if no distinction is made between new, shaky 'frontier science' and more well established 'textbook science', culminating in the presentation of all research as 'fact'.

Science communication to the public needs a renovation. This is already set to come in the form of a shift from the one-way channel of the mass-media towards interactivity – for example, public forums and door-stepping. However, change within the media is vital as it remains the most effective way to reach large numbers of people.

In order for communication to be improved, consulting the public will be vital. A report by the Committee of the Public Understanding of Science highlighted the importance of knowing your audience – what do they know and what do they want to know (Turney 1998).

Studies assessing this sort of thing are few and far between. Those that do exist seem to look at the UK or even Europe as a whole and not at specific locations. My aim, therefore, in my 3rd Year Research Project was to find out what the public of London know about environmental issues, their attitudes to science in the media and their level of environmental concern. While I was at it, this seemed like a good opportunity to test on Londoners, the idea that greater knowledge of the environment leads to greater stewardship.

Method

Such an assessment would seem like a mammoth task when lacking a 20-strong army of surveyors and any sort of funding. So a total of 100 survey questionnaires were completed over six consecutive days in an area taken to be the most representative of London as a whole.

This area turned out be Ealing, and here's how. The category most likely to have a bearing on media exposure and environmental knowledge out of a vast number of possibilities (income, age, job genre) is that of education and qualifications. Using Greater London Authority (GLA) figures, each borough of London was examined to see which was most similar to London as a whole in terms of the percentage of residents with qualifications at each level. Brent was found to be most similar, followed by Ealing and then Harrow.

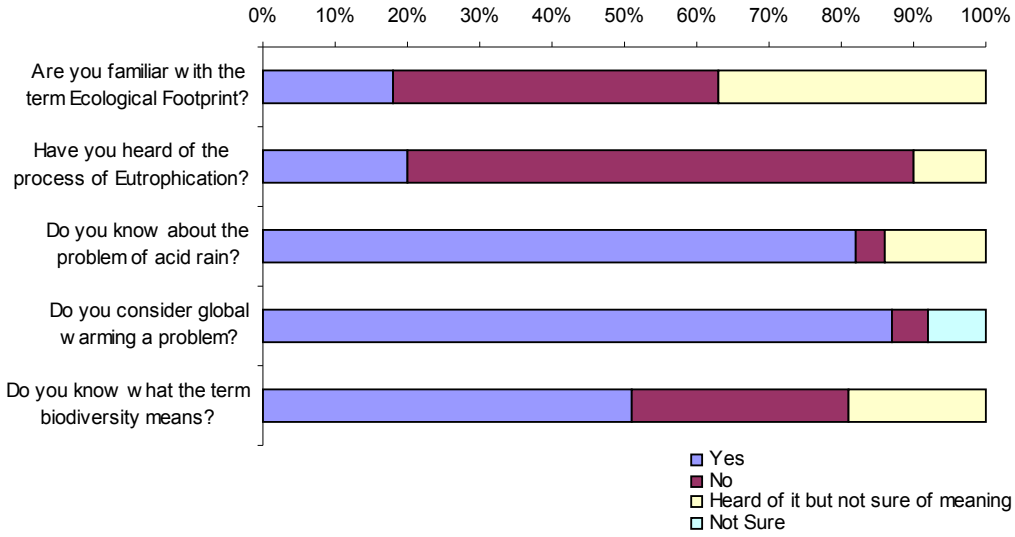
This would render the borough of Brent as the most appropriate sampling region. However, this is until consideration is given to the difference between the wards in the borough. London is itself a diverse city and so greater heterogeneity can only be more representative. Living in the 2nd most representative and 3rd most diverse borough, residents of Ealing frequenting shopping districts, residential areas and parks were asked tocomplete questionnaires.

Surveys consisted of three sections: assessment of how environmentally friendly respondents lifestyles were, of their exposure to environmental issues in the media and of their environmental knowledge. Responses were scored to obtain a value for each category.

Now, it's important in a study such as this to recognise bias and indeed there are error considerations to be taken in to account. To start with, it is important to remember that public attitudes towards the environment are formed in the wider context of domestic issues. For example, financial considerations will make respondents both more and less environmentally friendly – organic food costs more, but limiting the use of motor vehicles saves money. There is also the possibility that when being

questioned by an environmental science student, respondents are eager to give more virtuous answers than are really accurate. For these reasons, the results obtained from this investigation were compared with those found in other similar studies.

Figure 2 – Pollution Questions



In addition to the questionnaires media coverage of environmental issues in London was measured everyday for one week.

Results

What have the helpful public of Ealing (representing London) taught me about their relationship with environmental issues? First let us consider environmental knowledge.

While most respondents are familiar with the concepts of acid rain and global warming, there appears to be an information gap surrounding the scientific basis. For example, 82% claimed to know about acid rain, yet only 24% could correctly identify the sources of pollution responsible for the problem. And only half the respondents claimed to know what biodiversity means. Respondents have either not been exposed to the scientific details of the issue or they are misinformed. So where do Londoners acquire this level of environmental knowledge?

The exposure section of the questionnaire revealed that respondents are most likely to obtain environmental information from TV. Information from newspapers closely follows but the internet is far behind with a majority of respondents stating they never use the internet to inform them on the environment.

When asked about their opinion of environmental issues in the media, Londoners appeared to be savvy about the problems of current communication. A great range of reasons were given as to why they would be put off reading or watching environmental articles, including 'not greatly informative' and 'likely to be biased'. This section of the questionnaire sparked the most discussion and

unprompted answers included 'lack of time' and 'depressing'.

How environmentally friendly respondents were was used as a measure of their environmental concern. This section found that the environment seems to be a low salience issue – people are broadly aware of the consumer/lifestyle choices available to them, but fail to routinely choose the most 'green' option for whatever reason (see figure 4).

Figure 3 – For what reasons, if any, would you be put off reading, watching or looking up environmental articles?

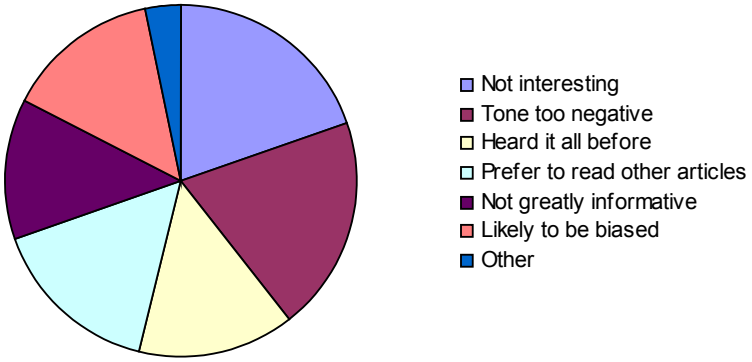
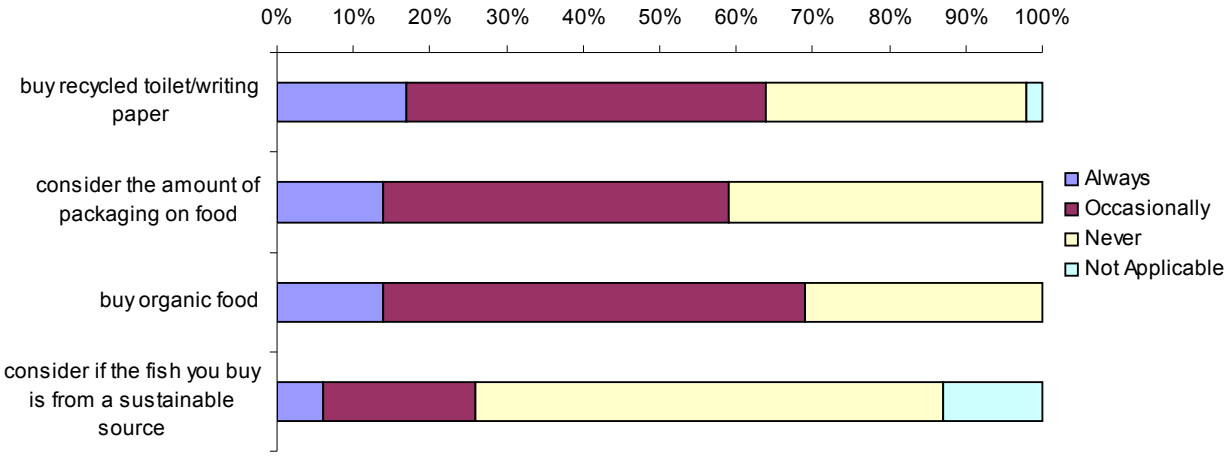


Figure 4 – When shopping, how often do you do the following?



For example, 81% consider global warming to be a problem but only 11% and 9% admit to thinking a great deal about limiting their power consumption and vehicle use respectively. Interestingly, many respondents commented that they were not aware that fish could be sustainable, so in some cases, consumer choice is not informed.

What about the link between stewardship and knowledge? When individuals scores of exposure were plotted against their scores of knowledge, a significant positive correlation was found. Now, clearly it is no

major revelation – the more you read/watch, the more you know. However, a weaker, but still significant positive correlation was also found between knowledge scores and lifestyle scores. Despite the theory that knowledge does not necessarily lead to more ethical behaviour, it does appear to do so amongst respondents.

Coverage by the media of environmental issues was found to be daily in some form or other, yet there appears to be repetitive coverage of a few issues and neglect of many others.

Analysis

I managed to get hold of 4 other similar studies with which to compare my results. These included one GLA survey, a study by the European Commission (EC) and two by research and development company 'MORI'. Taking a closer look at my results and these others led me to come to 5 conclusions.

i) There is still a need to raise understanding of environmental issues. For instance, Londoners might be aware that eutrophication is a problem. Yet without knowing what that means, their cooperation to tackle the problem cannot be relied upon. A European Commission report supports this idea in a public survey which identified the most effective answer for solving environmental problems being 'raising general environmental understanding'. Yet with the environment making an appearance in the media daily, the problem appears to be not a lack of information, but a lack of good information.

ii) There is a need to bring information to the public. It seems that few people without a specific interest in the environment actively seek out information about it from more informative sources such as the internet, exhibitions or forums. A report conduced by MORI on behalf of GLA concluded that it is crucial to use existing effective channels of information to communicate about environmental issues. Perhaps bringing the quality of information provided at exhibitions or conferences to the public in the form of a free newspaper would be ideal.

iii) There is a need to focus more on solutions. Negativity of articles is one of the two most common reasons why respondents are put off reading about the environment and the EC found that 60% of UK citizens would like to know more about environmental solutions. This calls for a need of coverage of environmental success stories concerning environmental protection agencies, government or big businesses. People are more likely to join a movement which they can see is achieving something. In addition, suggestions of what the public can do need to go further than 'don't leave your TV on standby'. For example, a MORI survey found that 81% of Londoners support renewable energy. It seems that the potential for uptake is great but is limited by the lack of groundwork on information on actual practicalities such as cost, installation and function.

iv) There is a need for more variety in coverage. Nearly half the respondents stated that they are put off environmental articles because they are 'not greatly informative' or they have 'heard it all before'. This implies monotony. Indeed, the findings of the questionnaire suggest that knowledge is limited to a few main areas – those which are most extensively covered by the media. So what information are the public after? The use of genetically modified organisms in farming and agricultural pollution seems to be the answer according to an EC study which questioned UK citizens on what information they would like but currently lack.

v) Knowledge can lead to stewardship. The results from this current survey indicate that generally, increasing environmental awareness does lead to a more

environmentally friendly lifestyle. While the scale of this study is small, larger studies such as EC and MORI have found similar results. Increasing understanding to promote stewardship appears to be a far from futile endeavour. It gives encouragement that a positive reaction can be gained from information rather than just penalties and legislation.

Conclusion

Undoubtedly however, to make the most of any stewardship incurred, raising understanding will need to go hand in hand with making solutions more accessible. For example, however successful the Recycle for London campaign has proved, the fact remains that wheelie bins provided by London borough councils to residents are four times the size of recycle boxes provided and emptied twice as often.

It seems clear that the doom stories brought to our TVs and newspapers everyday could well be breeding boredom, depression and apathy rather than inspiration. If indeed there is a link between knowledge and stewardship as indicated in this study then it seems only logical to make important environmental issues more accessible and tangible.

Why not highlight to commuters the important biological corridors which they pass everyday on their way to work in the form of London's railway sidelines? Why not tell them about London's secret rooftop gardens which do wonders for biodiversity? But ultimately, why not give Londoners something more honest and interesting to read or watch over breakfast. And then, just maybe, breakfast *will* become organic and locally produced.

Further Reading

- Rowan-Robinson J, Ross A, Walton W and Rothnie J (1996). Public Access to Environmental Information: A Means to What End. Journal of Environmental Law 8 (1) p19-42.
- Cunningham WP and Stubbs HS (2003). Information Needs Related to Teaching about Air Quality. Environment International 29 (2-3) 331-336.
- Bauer HH – 1992. Scientific Literacy and the Myth of the Scientific Method. University of Illinois Press.
- Lyndhurst B – 2003. Attitudes to renewable energy in London: public and stakeholder opinion and the scope for progress. MORI and Upstream on behalf of GLA.

Author Profile:

Rachel decided to study Environmental Science after spending her post A-Level gap year working on conservation projects in Costa Rica . Whilst working towards her BSc, she developed an interest in how issues of environmental science are communicated through the media. Rachel hopes to pursue a career in science journalism.