HOUSE OF COMMONS

Environment, Food and Rural Affairs Committee

Oral evidence: Flooding, HC 170

Tuesday 20 October 2020

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Watch the meeting

Members present: Neil Parish (Chair); Ian Byrne; Geraint Davies; Barry Gardiner; Dr Neil Hudson; Robbie Moore; Mrs Sheryll Murray; Derek Thomas.

Questions 105 - 167

Witnesses

I: Professor Richard Dawson, Adaptation Committee, Committee on Climate Change; James Richardson, Chief Economist, National Infrastructure Commission.

II: Ali Morse, Acting Chair, Blueprint for Water; Rob Wesley, Head of Policy, Water UK; Richard Bramley, Environment Forum, National Farmers' Union.

Written evidence from witnesses:

- National Infrastructure Commission

– Blueprint for Water

- Water UK

- National Farmers' Union

Examination of witnesses

Witnesses: Professor Richard Dawson and James Richardson.

Q105 **Chair:** Welcome to our public evidence session on flooding. I am delighted in our first panel to have Professor Richard Dawson with us, who is on the Adaptation Committee of the Committee on Climate Change, and James Richardson, who is chief economist at the National Infrastructure Commission. Over to you, Professor Dawson. Would you like to just give a bit more of an introduction to your good self, and then James the same, and we will start the session?

Professor Dawson: I am Richard Dawson. I am a professor in the School of Engineering at Newcastle University. I am also a member of the Adaptation Committee of the Committee on Climate Change, leading on the flooding, water and infrastructure briefs in the Committee.

James Richardson: I am James Richardson. I am chief economist at the National Infrastructure Commission and I led on the commission's 2018 National Infrastructure Assessment, which included our recommendations around flood risk management, to which we are awaiting the Government's response this autumn.

Q106 **Chair:** Sometimes you have to wait a while for a Government response. We find sometimes we have to wait quite a while for a response to some of our Committee reports, but we will perhaps chase that up for you.

I am going to start off with the first question and then Sheryll Murray will also come in and ask part of the question as well. Do the new Government policy statement and Environment Agency strategy meet the challenge we face from flooding, both now and in the future, given climate change? That is quite a broad and big question.

Professor Dawson: It is worth pointing out first of all that in our assessment, across a wide range of sectors, flooding and coastal erosion typically score well, so I would just like us to be cognisant of that in relation to all the comments that I make moving forward. This is a good sector and certainly leading in comparison to some others.

We also very much welcome the new policy statement and Environment Agency strategy. They are a big improvement on what we had before. We have struggled perhaps in the past in seeing flood and coastal erosion risk management as being a bit piecemeal and reactive. This strategy starts to set the framework for a longer-term emphasis on climate change, so preparing for two degrees of global warming but also thinking ahead to planning for four degrees of global warming. We very much welcome this emphasis on community resilience and the use of nature-based solutions where appropriate. All of these things are really good starting points for a new strategy and policy statement.

We also very much like the integrated approach that is emphasised in there. Over the years, certainly the 20 years I have been working in this

space, we have seen that gradually improve as partners across the flooding sector start to work together. The challenge, though, still remains that there are lots of organisations, plans and strategies beyond just this policy statement and the Environment Agency's new strategy, and they cover different spatial areas, sectors and timeframes, and they often have different legal statuses. We still find we are lacking that overarching strategy and clear outcome, direction of travel and ambition, nationally and in terms of how that could be implemented locally.

This is a really important step forward, but it is just the first step. It will take time for the new £5.2 billion to filter down and turn into improvements in risk reduction, but there are actually a lot of challenges ahead in terms of how this is going to be implemented and operationalised.

Q107 **Chair:** Can I just ask you a slight follow-up question on that? The Environment Agency has a very difficult job when it talks about resilience, because if you live by the coast, if you are seeing erosion and you have to move properties back or you have to flood particular areas, it is not easy, is it, to come forward with those? You can tick a box and say, "Yes, we have looked at that", but then you actually have to deal with the individual people on the ground, whose families might have lived there for hundreds of years. How well are the Environment Agency and Government dealing with that particular side of it?

Professor Dawson: Across the country there are so many schemes and initiatives it is very difficult to have sight of everything, but from what I have seen the engagement and leadership from the Environment Agency in this regard has been greatly improved over the last two decades. In recent years, in particular in the development of this new strategy, I have seen a lot of evidence of very robust and lengthy consultation, engagement and collaboration. Things are going in very much the right direction there.

James Richardson: At the risk of echoing Richard, there is a great deal within the Government's policy and the Environment Agency strategy to welcome. Particularly, there is a substantial increase in funding that goes beyond what we ourselves recommended and puts Government on a trajectory to meet the levels of investment that would be needed in a two-degree climate change world. Clearly, if we were in a four-degree world, we would need significantly higher funding, but the strategy of planning on the basis of a two-degree world but considering how you would then adapt those investments and how you could enhance them in future if things turn out worse is, in our view, the right one. This feels like a big step change in funding at roughly the level that is needed with the right kind of approach to the potential risks in future.

Also, as Richard said, there are some very welcome changes around strategic planning here, in terms of taking more of a catchment-based approach and looking at catchments and coastal cells in terms of improved planning around surface water. It is still something where we

lack data, but Government have commitments out there to publish better data on this. There are commitments from the water companies to produce surface water flood management plans.

Again, it is pushing in the right direction, but, as Richard said, there are a lot of actions in the plan that are about future plans and future consultations. There is nothing wrong with that. That is a perfectly rational way of addressing these complicated issues, but those themselves have to come good. We have to see that better data. We have to see the quality of the plans that water companies come up with with local authorities on surface water planning. There is still a lot to do and I am sure we will come back to this question of national standards, where the Government and ourselves take a different view, but fundamentally there is a lot of good news in the plan and the Environment Agency's strategy.

Q108 **Chair:** There is just one supplementary from me and then I will hand over to Sheryll. One of the issues that we have found when dealing with floods is that, when you talk about a one-in-100-year flood, if you have flooded this year, theoretically people will think you are not going to flood again for another 99 years. That is not the case, is it? How do we get over to the layperson, if you like, exactly what the risk is, especially with climate change? It is not an easy thing to do. How can we do that better do you think?

James Richardson: It is certainly not an easy thing to do. As you say, people do not understand these return periods. I fear people also do not understand the probabilities that we used in our report. That language is fine when you are talking to experts, but the general public will struggle with probabilities.

There is a lot that could be learned here from organisations such as the Met Office, which deal with these challenges, in terms of giving people warnings about potential weather events that again lie in the realm of probabilities. If the Met Office is dealing with a sophisticated operation such as Heathrow Airport, it will provide Heathrow Airport with a probability of fog there, and Heathrow Airport knows how to act on that. If they are providing warnings for you or me, they will provide red, amber or green, so relatively simple things. Behind that there is a lot of science. They are well-defined categories that mean something to meteorologists, but I do not have to worry about understanding meteorology to know whether it is wise to go out during the day and so on.

There is a lot of understanding in the risk management community about how you can communicate these complex notions without losing the underlying rigour, but in a way that is much easier for people to understand, and that would be the way you would want to go with this.

Q109 **Mrs Murray:** Could I just turn to the emphasis on coastal flooding? I have a town in my constituency and, during certain times of the year, we have high spring tides and very heavy rainfall. Those two cumulate

together to actually cause a bigger problem than you might necessarily think. Do you think the strategy takes account of that enough?

I will give you another example. I know Mr Gardiner went on a trip, which I joined when we went to the Norfolk naval base in the USA and they had a situation where, because of climate change, we saw the sea levels rising, but the land was also sinking, which made it a greater problem. Do you think we are looking at it in enough of a joined-up way to ensure that we can mitigate these problems?

Professor Dawson: That is a very good observation. These issues of multiple hazards, whether those are different sources of flooding, like the surface water, the coastal or the river, and the compound effect of subsidence as well, are all adding up. The strategy in theory paves the way for tackling multiple hazards, but how we address them and how we implement this on the ground is where the real challenge is, because at the moment there is a lot of separation and fragmentation in the leadership for surface water, coastal and river flooding, and different degrees of statutory nature of different policies. We have also just been looking at the planning White Paper. We are not clear how the planning White Paper is going to marry up to this new environment strategy.

Mrs Murray: We are going to come on to planning later on, so I do not want to encroach on one of my colleagues' questions. Sorry about that.

Professor Dawson: That is okay. Absolutely, it lends itself to tackling these joint problems, but there is still this governance issue that, without a clear direction of travel and clear ownership, especially where these two sources of flooding come together, we do not have the clarity of leadership on that and clear outcomes as to what we are trying to achieve. Perhaps I will leave it there. We will come back to, as you said, some of the other things later.

Q110 **Mrs Murray:** James, you mentioned £5 billion-odd. How much do you think that will be able to filter down to mitigate the problem and will there be a lot more money needed in the future?

James Richardson: There will certainly be a lot more money needed in the future. This is about the right run rate for a six-year period, and the fact that it is being set out over a six-year period, which allows the Environment Agency to plan, is very important. We have had that for one six-year period before, but before that it was very stop-start.

Our estimate was that in a two-degree world and to meet the resilience standard that we have set out, which admittedly the Government have not agreed to, we would need £33 billion between now and 2050. If you look at the run rate that implies, it is slightly higher than the £5.2 billion, but we had always anticipated that this would be on a rising profile. It is about the right order of magnitude, but it is certainly not one six-year period and you are done. This is a long-term challenge and in a four-degree world, it is a much bigger challenge. It is the right path, but it is certainly not going to be the end of that path.

Q111 **Barry Gardiner:** James, you have already alluded to the fact that the Government and yourselves in the Infrastructure Commission have a different view of how you should achieve resilience. The Government have said they have a similar vision and they have specifically highlighted elements of what they see to be the progress going forward, develop and improve the approach to assessing costs and benefits to target funding for maximum benefit being one of them.

One of the things that we have seen in the past in the prioritisation of funding has been rather perverse, in that if you had a high-value property in central London and you had foolishly constructed a kitchen in the basement of it, money would then be given to you to protect that because the value was so great that, on a priority level, you were protecting greater value. What evidence is there in the new July 2020 policy statement from the Government that actually there will be a change in that prioritisation of this very welcome increase in funding?

James Richardson: There are two halves to that. In terms of whether you can change cost-benefit analysis to address that specific issue, you certainly can. We do not have the details yet on exactly what the Government are proposing, but it is not beyond the abilities of the technique, as it were, to do that.

If I can draw an analogy from the transport world, where similar kinds of questions arise, a long time ago in the transport world it was decided to treat the value of time to a commuter in London, say, and a commuter somewhere else where incomes are lower as the same. That would be an equivalent kind of way, saying, "There are certain things that we are going to treat the same, whatever the market might say the value is, because we do not want people to be flooded anywhere". There are certainly technical fixes you could do to cost-benefit analysis to address that and I would expect to see some of that come forward from the Government.

There is a broader challenge of whether cost-benefit analysis on its own can really answer this question of what your priorities are, because it needs to be embedded in a broader strategic framework. You need to know where you are going to be able to say, "These are the three or four different ways in which I might get there that I will then compare on costs and benefits".

If you are trying to compare every possible flood resilience scheme anywhere in the country against any possible standard that you are trying to achieve, the problem becomes impossibly large. You never actually do that and then you are filtering things in and out without really thinking about what you are trying to achieve. That was one of the reasons that we put forward for having a national standard and it is part of what it says in the Green Book, to be fair, that you need a strategic case before you start addressing cost-benefit analysis.

Q112 **Barry Gardiner:** Perhaps give me a definition of resilience to flooding,

because the Government have said that one of the reasons that they did not want to adopt your suggestion was that there was no agreed understanding of resilience. Is that a fair criticism by the Government? How would you respond to their accusation that it would go for a lowest-common-denominator approach?

James Richardson: It is fair to say that there is not a single general agreed version of resilience. Equally, the strategy is very much about resilience. It is not as if the Government are rejecting the notion. In fact, they are very much embracing the notion.

There are a number of pragmatic approaches to identifying what we mean by resilience. We published a report on resilience in the late spring and we set it out in terms of preparing, resisting, absorbing, recovering and then adapting or transforming. If you wanted to measure the standard, you would look at the middle block of that, resisting, which is, if you like, your traditional protection. Is a property protected by flood defences, whether they are hard or natural, against flood risk? If it is not protected, nonetheless, if there is a flood, are the floors high enough and are there air bricks with the gates in them? Is the property set up in such a way that actually the property itself can cope with that flood risk?

In terms of recovery, even if the property does flood, can I get back into it quickly? You had the example from the Environment Agency of a hairdressers next to the river, where you obviously do not want to build a massive wall, but they were back in in a few hours, because the property had been adjusted with the plug sockets in the flooring and so on.

You would clearly have to set out what exactly is an acceptable recovery time, so you would have to make some decisions in doing that. The Government are right to say it is not straightforward, but equally, there is enough understood about what we mean by resilience and about its components. You have to take decisions to make a standard and you have to make sure that standard does not drive you into perverse behaviours—that you are not aiming for the test, as it were—but as a broad approach it could be done. We measure many complicated things. Climate change itself, for example, is very complicated, but we have measures of emissions and so on.

In terms of lowest common denominator, here I must say I am a little bit more puzzled by the Government's approach. I understand their point on the difficulties of doing this, but it does not seem to me obvious why you have to choose the lowest common denominator. The standard that we put forward is not a lowest common denominator. It is considerably above the standard of resilience in many parts of the country today and, ultimately, it is a political choice as to what that standard is. You are never going to get a perfect right or wrong answer. We did some cost-benefit analysis of the standard as a whole, but it does not give you the right answer, so you have to make a choice, and you can choose a higher standard than the lowest common denominator. That is what we put forward and that is what any Government could choose.

Q113 **Barry Gardiner:** That is extremely helpful. If I can turn to Professor Dawson, would you broadly agree with what Mr Richardson is saying to us about standards and the ability to measure a resilience standard?

Professor Dawson: Yes, I would agree with pretty much everything he said. We did not promote the idea of a resilience standard. We have very much, though, always set out a position in the Committee on Climate Change that we do need to set a long-term outcome for what we want to achieve with flood risk management, and the resilience standard is one nice approach to tackling that. There are potentially others, but it does at least provide that clarity of long-term ambition.

It is not without problems and we have noted that resilience is used inconsistently across the piece. I recognise and like the National Infrastructure Commission's definition, but we have increasingly seen it in the committee being used to refer to the transition to net zero, so decarbonisation, which we do not really see as being the key driver of the resilience agenda here. It is much more about protecting that infrastructure, responding and recovery, as James has just said.

Q114 **Barry Gardiner:** I wanted to move to that, actually, because one of the things that James talked about was the ability to withstand and then to adapt, but one of the things that you on the Adaptation Committee have been looking is almost prior to that. It is the upstream element. It is how to stop the problem happening in the first place. A number of issues have been put forward as major factors, such as upland clearance, heather burning and the need for peat bog restoration. How would you rate those in the mix and how do you see those on a priority basis for tackling as part of this whole strategy of resilience?

Professor Dawson: Unfortunately, there is not a one-size-fits-all answer to that. It very much depends on the context of the river catchments and the assets at risk that you are dealing with. Upstream upland catchment management and restoration of ecosystem services are absolutely very important, but then these nature-based solutions have physical limits. Sometimes we have to build heavy infrastructure to actually cope with what nature will throw at us. What I like about the resilience concept is the emphasis on preparation, response and recovery. I hope we have learned over the last six months of the current pandemic crisis that there is no substitute for evidence-led preparation in the face of some risk, whether that is a long, drawn-out pandemic, climate change or extreme weather events.

Q115 **Barry Gardiner:** I know that you may not be with us for the second panel, where we are going to be discussing SuDS, but the Committee on Climate Change has talked about inadequate progress being made in managing the increase from surface water and that the plans do not consider different climate change scenarios. I just wanted to give you the opportunity to elaborate on the Committee on Climate Change's position on this, which may help us when we are thinking about SuDS later on in this session.

Professor Dawson: Surface water management is the least well developed, I would say, of all of the flood management sources because of its complexity in terms of the number of organisations that have a stake in where the water lands and where it ends up. We would very much like to see Schedule 3 of the 2010 Flood and Water Management Act being enacted to make SuDS compulsory in all new developments, because every time we add new buildings and new impermeable land to our built environment, we are essentially adding to the run-off from that and pushing flood impacts downstream. It is absolutely crucial.

I would also just add that we are starting to collect data on the location of SuDS in new developments. At the moment it is very coarse level, so we have a rough idea of the percentage of new developments that have SuDS, but not necessarily the standard of those SuDS or, indeed, whether they are just, say, plastic tanks underground or whether they are actually multifunctional green space SuDS that provide additional co-benefits to the public realm as well. We could really do with a better adoption of SuDS, planning them into new developments to ensure there is no compound increase in risk and then actually monitoring and being aware of what is built as a result of that as well.

Q116 **Barry Gardiner:** James, I take it you would agree with that.

Professor Dawson: Yes. As Richard said, this is very complicated and there is a real shortage of data. We just do not understand the capacity of local drainage and sewerage systems and, therefore, whether you can safely add to that or whether the systems are already at or indeed over their capacity. We really need to get that better data picture, so that we can then take rational decisions on the ground and not just add to the pressure on systems that may already be at their limit or indeed over the limit.

Q117 **Barry Gardiner:** Is that not a responsibility really, in a sense, on you at the National Infrastructure Commission? This is one of the most critical infrastructures that we have. I would have thought that that would be a primary focus of your work, to determine just what headroom there is. We know in London, with the Bazalgette sewer system, that Bazalgette designed it to cope with 10 times what he had at the time, but we are now exceeding that level, so is this not something that we should be doing on a country-wide basis to really understand the nature and the scope of the problem that we have?

James Richardson: It is definitely something that we need to be doing more widely. It is something that we do have a strong interest and intend to come back to, but the data on the actual assets themselves is owned by the water companies and the local authorities. To get to that first part where you can analyse capacity, you need to know what is physically underground.

That work is being done. As we understand, it is part of the Government's surface water management plan. Water companies have been tasked

with producing surface water management strategies, so there should be, within the next few years, much better data on this that would allow bodies such as ourselves—we are very interested in this—to look at that and make recommendations about what needs to be done. With the best will in the world the National Infrastructure Commission cannot go around digging up everybody's drains and measuring them, so we do need that prior data to be produced. It would be very important to make sure that actually happens, because there are commitments to it.

Q118 **Barry Gardiner:** Would it be helpful for this Committee in its report perhaps to make recommendations about making that data available, so that you could then act on the basis of it?

James Richardson: Yes, very much so.

Chair: That was what is called leading the witness, but I very much take your point and we probably can put that in the report.

Q119 **Ian Byrne:** I will be brief, because my esteemed colleague covered it extensively there. Just on the SuDS issue, it is a really contentious issue in my constituency of West Derby in Liverpool, where we have flooding and certainly we have new development, so I am extremely interested in where that goes and now I can take that information back.

I just want to briefly, for the purpose of the report, just drill into the national standard of resilience, if possible. The evidence that we have received as a Committee is overwhelmingly supportive of having the national standard of resilience. I will just mention Ali Morse from the Wildlife Trusts, who said, "Such standards could give certainty to communities at risk of flooding or coastal change". What would the benefits be, please?

James Richardson: There are three broad sets of benefits. The first, as I have discussed already, is you need to have a strategic aim in order to be able to identify the optimum mix of interventions, whether those are natural interventions, hard interventions, community interventions or property interventions. If you do not know what you are aiming at, it is next to impossible to get the right set of interventions and that is true for individuals as well, looking at what they might do to their property. The Environment Agency strategy perfectly reasonably says individuals have a responsibility here, but if they do not know what is going to be provided, it is hard to know what they should provide for themselves. That is the first thing: you need that strategic aim. That is true in lots of areas.

There is then a second dimension that we looked at, which is more specific to flooding, which is that you have to think through what happens with the current approach if the cost-benefit analysis says no, if a property is deemed not worth protecting through the cost-benefit analysis. The property does not go away, it is not likely to be abandoned and unfortunately people generally do not adapt the property themselves, and so people are left holding that flood risk.

It is in the nature of a flood risk that sooner or later the property will then flood. You have to ask, "What happens at that point?" Does the Minister turn up in their wellies with the camera rolling and say, "We did the cost-benefit analysis. It was not worth it", or do they turn up and say, "I promise you this flood scheme that six months ago I denied you"? If it is the latter, it would be better to build it and not have the flood. Having a standard addresses that time-consistency problem, if you like. Is the decision consistent over time? Can you defend it when the inevitable happens when you are dealing with risk? It feels like the cost-benefit analysis approach just does not really manage that consistency.

Thirdly, there is a distributional question here. What do we want as a society? That is not for us as a bunch of technocrats to say, but we did ask the public, through social research, how they felt about having a standard, even though that meant that some places were more expensive to protect and even if they themselves were not at risk. People were much more in favour of that national standard approach than they were of saying, "People have different risks and they should manage them at different levels". Only about 20% of the population were against that; about 60% were in favour and some, understandably, did not have a strong view.

It is partly a sense that this seems to be what people feel that the Government ought to do with their taxes. It is not for us as technocrats to say the answer to that, but we did want to get the public's view. It is important in terms of social cohesion and so on.

Q120 **Ian Byrne:** That is extremely interesting. Professor Dawson, do you have anything to add?

Professor Dawson: I would agree with all of that. I would just add two additional points. The first of those is that, in terms of resilience, we are perhaps broadening out what we are considering in terms of the benefits of flood risk management interventions and moving away from a view of counting properties in flood plains, but thinking about outcomes in terms of health and wellbeing, productivity and so on. It broadens what we are looking at in terms of what we are valuing within the flood plain.

It also opens up the conversation to things like building back better. Rather than we get flooded and we build back as before, we build back better. One of the things that the Committee identified was that if we are to come out of the Flood Re period in 2039 and have ensured that flood plain properties that should be benefitting from property level protection are doing so, so property level resilience measures, we actually need to convert and adapt those properties at a rate of about 20 times faster than we are currently doing, moving from about 500 a year to about 9,000 a year or something like that.

The resilience discourse allows us to open up that wider set of actions and interventions and, as James said, that helps particularly the smaller

communities that would not have benefitted from any action in the past to actually open up those discussions and build their local resilience.

The other advantage it brings is maybe opening up a general broader awareness about where risk is and what people can do about it. If we look at Japan and how they address earthquake resilience, if you go to a school in Japan they will all have this training and education around earthquake resilience and what to do built in from a very early stage. In some of our flood plain areas, people are often poorly informed as to what the level of risk is. We were talking earlier about how confusing some of these standards are, and the resilience conversation allows us to build that capacity and awareness in as one of our comprehensive action measures to tackle it.

Chair: Gentlemen, these are very good answers, but could you keep them just a little shorter, because we are beginning to get a bit tighter on time?

Q121 **Geraint Davies:** I want to ask about whether the planning system is fit for purpose now and into the future as we experience climate change, but can I first ask about a specific issue to do with planning and SuDS, namely whether you agree that the idea of water capture on rooftops might be a good idea in order to capture water in a butt, on any building, so that that water would not immediately go into the sewerage system, so that during flash flooding periods when there is lots of rainfall you would actually be able to hold a lot of the water out of the sewerage system and then let it gradually sink in?

James Richardson: It is not something we have specifically looked at. Clearly, the set of measures that slow water down between when it falls, particularly on hard surfaces, and when it enters the drainage and sewerage system can have significant beneficial effects. They may not be enough on their own, but they certainly can.

The question you would have to ask there is whether the butt would be empty when you needed it to be. If it was designed purely to fill up and then gradually drain out, of course it would be. If it is what I think of as a conventional water butt that one might have in the garden and then take the water out of it to use to water the garden rather than using the water from the tap, it might then be full if it had rained the day before or whatever. You would need to understand the behavioural patterns that people have when using them, and that is the kind of thing one could test perfectly well at a relatively small scale.

Q122 **Geraint Davies:** I just thought I would get it on the record; perhaps you can pursue it. Moving to my substantive question about planning, the situation, as you know, is that the Environment Agency can recommend that a development does not go ahead because it is a flood risk and the planning authority, coaxed along by the developer, can ignore that, but then downstream, so to speak, properties that maybe are not properly insured because they do not have the money and they are at flood risk

are then flooded and the individuals pick up the tab. What is your feeling about whether the Environment Agency should have greater powers and whether over time these risks will grow?

Turning to one of your previous questions about national standards as opposed to insurance, as it were, just looking at cost-benefit analysis and where you insure and where you provide resilience, et cetera, do you think there is a case to be made for local authorities to provide collective insurance for all flood risk and, therefore, as it were, to take the risk of their own developments? If they give planning permission and then something is destroyed they have to, through their collective insurance, pay for it and, therefore, they are less likely to do something stupid.

James Richardson: This comes back to this question of standards. What we have said is that if properties are being built in areas that are at risk and sometimes that will be inevitable, then the development should have to ensure that those properties are resilient to the standard and that that is done in a way that does not increase the risk further downstream, as it were, because it is no good saying, "I am going to protect my properties", and just pushing the problem elsewhere.

You could do that without a national standard. Local authorities could set their own standards, for example, but you clearly need some kind of standard to embed an approach like that. That is the right approach, saying, "You cannot say never ever build, but when you do you ensure that you are not adding to the aggregate resilience challenge, either for those properties or downstream".

Your insurance side is very interesting. It is not something that we have looked at, so that one we would have to put in the mix for when we come back to the next National Infrastructure Assessment.

Q123 **Geraint Davies:** I should declare I used to be in charge of flood risk management across Wales up to 2010, so I have had an active interest in these sorts of things.

We have seen a one-degree rise in temperatures. It is projected as 1.5 degrees by 2030, but in northern Europe we are already at two degrees and in Greenland it is something like three degrees already. There is 8,500 tonnes of ice melting every second, as I understand it. If the planning is on the basis of one-in-100-hundred-year events that are becoming one-in-50-year events, et cetera, how should we adapt our planning in order to take that into account? Is it the case that instead we should shift towards a resilience approach, whereby we evacuate villages or whatever and then they are repopulated after flooding that we simply cannot build against?

Professor Dawson: I would be very concerned if we were making long-term commitments on the basis of regular evacuations as our get-out plan. If we put this in a bit of context, in 2015-16, nearly 24,000 properties were built against the advice of the Environment Agency and, as a general proportion, it is around 7% to 11% or so of applications that

have gone through against their advice. In some cases this seems like a small number, but it all adds up. Every year it is a bit of a compound interest problem. We are adding more stuff into our current flood plain and climate change is changing the interest rate on our repayment of that risk, because it is upping the frequency with which we might expect some floods to occur.

The risk will grow if we continue to build, and it will grow faster and move towards exponential rates if we continue to grow at the current rate. Indeed, some analysis that we have done has suggested that if we continue approving flood plain development at this rate, in 30 or 40 years' time we will be seeing 150,000 or so new houses in the flood plain. That is a huge number. We need to put the brakes on a little bit more.

James' point about resilience measures being built in from the start, ensuring we do not have downstream impacts on risk, is absolutely crucial to this, but one of the things that, again, concerns me is that while the Environment Agency is a statutory consultee on fluvial and coastal flooding, it is not, and there is not, a statutory consultee on surface water flooding, and there is no statutory consultation on the future flood plain. In some areas that flood plain will grow quite a lot over the coming decades.

We really need to embed that longer-term thinking into our planning process right from the outset. I do not see that yet and I do not yet see that in the new planning White Paper that has been published. There is actually very little there on flood risk management. We await the details, but that is currently looking like it will remain a gap.

Q124 **Geraint Davies:** Should private developers or even the local authority have to put down bonds, so that the money is there if they have built on a flood plain? Individuals may not have the money to privately insure and the insurance companies may not want to insure them anyway. If they are going to make these decisions that end in misery, should it not be the case that the planning authority or the developers put down a bond to cover the future possible cost?

Professor Dawson: The Committee has not done that sort of economic modelling, I am afraid, but it sounds similar to some of the things we have heard about in other parts of the world. It certainly sounds like an interesting option to consider.

Q125 **Geraint Davies:** James, can I have a one-word answer on that, or a couple of words?

James Richardson: I am afraid it is the same answer. We have not looked at in detail, but it is certainly an interesting idea.

Q126 **Robbie Moore:** Just following on from Geraint, does the White Paper go far enough? How can we, through the White Paper, get better collaboration between local authorities when they are specifically looking at developing local plans. You look at a river valley system. It inevitably

will filter through several local authorities, all with different local plans. How can the White Paper be beefed up in that regard? Richard, you may want to start.

Professor Dawson: At the moment there is such a small amount on flood risk management that I am not quite sure where to start. The problem is the planning White Paper is only part of the mix of instruments, statements and strategies that are out there. We could put some robust words in, and we have even seen in our current planning framework that there are some strong words about avoiding development in flood zone 3, but it is still happening. We could put the strong words in the White Paper and the new Bill, but unless there is really joined-up thinking across all of these different strategies, it seems unlikely to materialise.

Given the long-term nature and the view required, especially when we are thinking about climate change, we would probably like to see some leadership coming through from Treasury, Cabinet Office or the PM's climate cabinet, trying to pull these strategies, different planning policies and so on together to make sure that the country had those long-term risks set out and the goals behind those right from the outset.

Q127 **Robbie Moore:** James, do you have anything else to add to that?

James Richardson: I very much agree with Richard. Inevitably, in planning, the devil is in the detail and we have yet to see the detail.

Q128 **Robbie Moore:** Just finally as a very quick point, Chair, it seems like resource is a big issue. The Town and Country Planning Association had identified that 83% of local authorities do not have either the knowledge or resources to incorporate the impact of climate change when making decisions on planning applications that are coming through. How do you really think that we can get to grips with that, because that seems to be a real problem when we are dealing with planning applications that are coming through the system?

Professor Dawson: That is quite an incredibly high number, but I am also not that surprised. Many of the people who I come across working in local authorities are doing climate change adaptation as part of another job and mixed in with several other portfolios. Very few local authorities have the resources to even have one full-time person working in this space. I am not sure anyone is going to like this, but the answer is, first off, that we need to make it a proper full-time job and responsibility within local authorities. We need to resource them to do that to make sure that they have the funds to do that.

We are getting better at this, but we need to also provide the national capacity to support the training of these people. The right information is broadly coming through, but just in the wrong way, as we were discussing earlier about the different between technical standards and publicly digestible information. We need to provide that national capacity, because, as you say, some of these decisions need to be taken across

multiple local authorities because of the physical boundaries of how water likes to move.

Chair: Can I thank you, Professor Richard Dawson and James Richardson, very much for your evidence this afternoon? It has been very wide-ranging. There are some good points there for us to put in our report when we do it, so we very much appreciate both of you coming along this afternoon and giving us your time and expertise. Thank you very much.

Examination of witnesses

Witnesses: Ali Morse, Rob Wesley and Richard Bramley.

Q129 **Chair:** Thank you to Ali, Rob and Richard for joining us. We will get straight into your introductions. Ali Morse, you are acting chair of Blueprint for Water. Would like to just introduce yourself briefly, and then I will go on to Rob and Richard?

Ali Morse: Good afternoon, Committee. My name is Ali Morse. I am the water policy manager at the Wildlife Trusts and, as you heard, the acting chair of Blueprint for Water. Blueprint is part of Wildlife and Countryside Link, which is the largest coalition of environmental organisations in the country. Blueprint members come together to work collaboratively on water policy issues. Blueprint's membership is a combination of organisations with specialist expertise in particular water policy issues and also the larger landowning NGOs, such as the Wildlife Trusts. Collectively, we have quite a range of experience on water policy and practice.

Rob Wesley: Good afternoon, Committee. I am Rob Wesley, head of policy at Water UK. Water UK represents and works with all major water and wastewater service providers throughout all four nations of the United Kingdom. Our vision is of a water sector that provides customers and communities with world-class services and enhances the UK's quality of life.

In relation to the focus of this hearing, in England water and sewerage companies are flood risk management authorities. We recognise that managing flooding effectively is a shared responsibility and that water and sewerage companies have a significant role to play in this.

Richard Bramley: Hello. I am Richard Bramley. I am a farmer between York and Selby, but I also represent the north-eastern region on the NFU's national environment forum and I take a lead on flooding there. I am representing 55,000 members in the organisation, but I am also someone whose farming life has been defined by flooding with the location that I am in beside the River Ouse, where the Wharfe joins, so I very much live and breathe this. If you want to see a canary that is

suffering from climate change and the effects of it now, then I am very much one of those.

Q130 **Chair:** I had better declare an interest also, because in 1981 we were flooded by massive sea floods and lost a lot of sheep. It was an experience I do not want to go through again, but it brings it home to you loud and clearly. I am going to ask you all a general question. Can you outline your organisation's interest in flooding and your reaction to the new Government policy statement and to the Environment Agency's strategy? That is quite a wide question.

Ali Morse: Blueprint member organisations are approaching our interest in flooding from the perspective that we want to see 30% of land and sea restored for nature by 2030, and within that is the context of sustainable land and water management. Our interest in flooding is for those reasons, but also, in terms of specifics, we have sites ourselves and communities that we work with that are affected by flooding issues. We have a particular interest in the environmental outcomes that can be delivered through effective flood management schemes, and we have a particular interest in the growing use of natural flood management techniques because of not only the flood protection, but also the wider benefits that they can bring.

Our reaction to the Environment Agency strategy was broadly very positive. We definitely recognise and appreciate the long-term thinking and the consideration of climate change that clearly underpins that strategy, and we are very pleased to see the Government's policy that followed really embracing a lot of what is in the Environment Agency strategy. Some of the aspects we thought were particularly positive were around recognising the need for a much more integrated approach to water and a more holistic consideration of surface water management. We heard earlier today about the difficulties of predicting and managing surface water flooding.

We welcome the commitment to consider whether the national planning policy framework is sufficient in driving flood management currently. We also welcome the indication of working more closely with the insurance industry to encourage greater uptake of property-level resilience measures and the idea of building back better when people are affected by flooding.

If there were some issues that are perhaps slightly less positive within that document, the one I would probably pick is around natural flood management. We very much welcome the commitment to double the number of Government-funded schemes that would have natural flood management as a component, but that needs to be only the first step. We would like to see in the longer term probably all flood risk management schemes embracing natural flood management solutions. I am not saying they are the sole solution to everything. We will need to continue to build and maintain more traditional flood defences, but they should be a component of almost all flood risk schemes going forward.

Rob Wesley: Our particular interest in this area is that water companies, under the Flood and Water Management Act, are flood risk management authorities. More broadly, we wish to take a sustainable approach to the long-term provision of services, both to customers and the environment.

In terms of our perspective on the Government's flood policy statement and the Environment Agency's national strategy, like one of your previous witnesses said in the panel this morning, there is much to welcome in the strategy and policy direction; the long-term focus, the emphasis on taking account of climate change, the use of natural flood management approaches and the aim to have a more integrated approach are all things we would welcome.

The two areas that I would perhaps highlight where the approach could be bolder—there may be time to come to these in more detail in the hearing—are on ensuring that an integrated approach is a reality, rather than just a phrase, and also the approach to service water management and, in particular, truly promoting SuDS and ensuring that all the policies are aligned to take forward SuDS and ensure they make a real difference. At the moment, our perspective is that the policy approach is somewhat contradictory in that area.

Richard Bramley: Representing farmers, we are effectively managers of a fairly hefty chunk of the land mass of the country. Flooding is something that many farms are affected by, and farming can offer an awful lot of solutions. That is where our interest lies.

As a note on the Government's strategy, the NFU very much welcomes the strategy. It is particularly good that there is a focus on collaboration. That is extremely important, especially given the potential for farmers and farmland to be joined in to such a strategy. It is very important that we truly recognise the value of land, though, in that process. Our farmland is centrally important. It is providing our food; it is providing recreation; it is providing a host of opportunities as well. It is also good that there is a focus on adaptation and resilience in this process we are going through. It is something we are going to have to find a way of living with and managing better.

As to the EA strategy itself, again, it is welcome. It is welcome that there is a collaborative approach. It is very important to involve farming and farmers in co-design right from the very beginning. We would very much welcome being involved in that. The NFU published a flooding manifesto in 2017, built around three key principles. The first principle was planning, which is the co-design. That is about making sure we are all communicating well on appropriate protection, where that is needed and also on appropriate payment. Where a farm provides a public good, be it through floodwater storage or be it through natural or semi-natural flood-management techniques, it is important that there is a long-term strategy in place.

Q131 **Chair:** Richard, without leading you too much, the Environment Agency

works in many flood-risk areas with low-lying land. You have the Association of Drainage Authorities. Is the Environment Agency devolving enough power and enough of the ability to do some of the maintenance work in some of these areas? This is an issue. Some areas may need to slow water down. In other lowland areas you may need to get that water out to sea. That happened in Somerset with the River Tone and the River Parrett back a few years ago. What is your and the NFU's position on it?

Richard Bramley: You highlight that there is probably the need for a more catchment-based approach and something where there is better understanding on a catchment basis. We refer to natural aspects of our landscape. Our catchments have not been natural for many years now, and we need to recognise that. It is going to come from human intervention in the way we manage those catchments differently, and every one of them is very different. When it comes to the devolving of power, the important thing is to start off with a good understanding of how that catchment functions.

We have the technology to understand the capacity of river basins. We know the topography of the land, the soil types and the infiltration rates. We can use that technology and that ability to better understand the scenarios we are going to face and how that catchment is going to respond. That is the starting point. You will then pull in various elements, be it through land drainage, wetting up in the hills or peat-land restoration and so on and so forth. That is about getting the best out of the situation. It is not just value for money but, importantly, that adaptation and resilience we are looking for.

Q132 **Derek Thomas:** Richard, you have covered much of this, but 77,000 acres were affected by flooding just this February, with Storm Dennis. During the whole of 2019, we had lots of flooding all over the place. What lessons could the Government learn about how they support farmers if these floods, as we assume, are going to be more frequent? Have you got any ideas about what further the Government could do to help you? I know you mentioned the value of land and the need to protect food production.

Richard Bramley: That is a big question. I have to be careful that I do not go on about that for too long. In some of these areas, floods started off as very rare events, and now in recent years they are almost a normal event. I have already had to adapt the way I farm, but there is no doubt that it has a huge financial impact. I am not just talking about myself there; there are plenty of farmers in that boat. I am sorry for the pun.

What needs to be done? To start off, planning and catchment balance is vitally important, but I appreciate that is not something we can do tomorrow. That is something we need to be acting on a lot quicker than we are doing, though. We need to start turning all of these words into actions. The Government made the Farming Recovery Fund available, and in the next few years we have the development of ELMS and payments for public goods, be that through natural flood management, holding

water up or storing floodwater to protect towns and villages. Those are very easily definable public goods. They are probably easier to quantify than an awful lot of the other public goods, like, for example, recreational access or suchlike.

The Farming Recovery Fund was welcomed in recent years, and many farms were able to get support to recover from that. Unfortunately, there were some anomalies thrown up. I can speak for myself and plenty of the people in my area. We were able to access this fund in 2015; it was withdrawn this time. We are basically told that, as we are now designated a washland and a flood storage area, which by the way was news to people—we had not been told that; this is almost like designation by default—that support has now been removed.

If you want to build confidence in ELMS and payments for public good and then you withdraw payment for public good at the first opportunity, when it is clearly definable, then you are completely and utterly undermining the direction of travel in your policy. That is something that could be addressed now, and it could be done quickly, please.

Q133 **Derek Thomas:** On the Farming Recovery Fund, can you help us understand this a bit more? Was this almost after the horse has bolted? It was about helping you to restore the farm only for it to be flooded or, as you said, to become a washland in the future. Is it about recognising that there are parts of land that cannot be recovered? Is this land needed to help store the water? I guess that is your point. Are we going to reward you for doing the right thing or reward you for doing the wrong thing? Is that what you are getting at, Richard, with your frustration with the Farming Recovery Fund?

Richard Bramley: We will not get bogged down in it, but the Farming Recovery Fund only covers a part of the losses that a farm business incurs when they store floodwater. We also appreciate that, in the hierarchy of things, protecting, in my case, the town of Selby from flooding by holding that water back is important.

There are engineering solutions that could help alleviate that, which I first proposed 20 years ago, for example, and I am sure those engineering solutions exist in other parts of the country as well. In fact, I have no doubt that they do. Ultimately, it comes down to how we balance that catchment better, which is going to help everybody.

The frustration we have with the Farming Recovery Fund is that it does not seem to be fixed and long-term. It seems to be a bit of a moveable feast. I do not know whether that answers your question.

Q134 **Derek Thomas:** It helps. Some of these schemes are responding once the horse has bolted, as I said earlier. For example, I am aware that floods also cause a loss of a lot of soil, and that undermines the viability of land for things anyway. I do not know whether Ali or Rob wanted to add any thoughts about how farmers could be better supported, not just

to protect other communities and the ability to farm but actually to help get over this issue of more water in the wrong place, which is basically what we are facing.

Ali Morse: One area that is going to be of increasing importance, as Richard mentioned, is the adaptation side of things. There are a number of really interesting projects at the moment looking at ways of supporting farmers to transition to wetter ways of farming. That will not be a solution everywhere, but in certain locations it can be a technically and economically viable alternative to protecting places from flooding or carrying out drainage management to transition to crops that thrive in wetter soils. There is some really interesting research happening particularly on peat soils, around growing crops like sphagnum moss, which provides an alternative to peat extraction and can then be used in the growing industry.

Those areas of work would benefit from some support. We could be enabling farmers to learn more about those techniques and help their piloting.

Q135 **Dr Hudson:** First, let me thank Ali, Richard and Rob for being before us today and for their excellent answers thus far. I wanted to come on to natural solutions to flooding. We have already touched on this in some of your previous answers, and, Ali, you touched on this in your introductory comments as well. I will kick off with you, Ali. How can natural flood management measures be most effectively deployed and targeted to provide the right benefits in the right places?

Ali Morse: It has been mentioned already, but the importance of taking a catchment-based approach to flooding solutions is going to be increasingly vital. Our river catchments, as has been mentioned, do not necessarily function very naturally at the moment, so targeting measures to different locations within a catchment to try to build back in some of that natural function is important in providing capacity for floodwater in the catchment.

Through environmental land management, we would like to see quite broad support for techniques that work with the central processes. Just to say a few words about what those techniques could be, the Staffordshire Wildlife Trust's Nature's Flood Defence programme is a really good example of some natural flood management measures that are becoming quite well accepted now. This includes things like internal measures, so using woody structures, basically tree trunks and branches, within the river channel to create leaky dams that hold back the floodwater in the upper parts of the catchment and prevent it rushing downstream to areas that are at flood risk.

Other solutions include tree planting in river corridors and in the wider flood plain, which helps to slow the flow of water over the land and infiltrate into the soil and the geology, in cases where the geology is

porous. These techniques are now quite well accepted in terms of natural flood management, as I said.

In the future, there will be an increasing need to adopt wider forms of natural flood management techniques. Some examples of the types of things I am talking about would be habitat creation and management. There have been some really interesting studies by Devon Wildlife Trust on the water-absorbing capacity of culm grassland, which is a rare type of wet grassland. It can hold around five times as much as agricultural grasslands. We are not just thinking about techniques that are used right in the river corridor; we are thinking about things that can be deployed across the whole catchment, in different locations according to the soil type, the topography and so on.

Another area that is going to be increasingly important under ELMS is encouraging the enhancement of soil organic matter, which is the component of soil that is really good at capturing and holding water. That can have a resilience benefit for agricultural crops as well, because, when soil is holding on to that water more effectively, it means those crops are less at risk in terms of drought, because the soil is better able to hold on to that water when it is scarce as well as being able to allow that water to infiltrate in times of heavier rainfall as well. These types of measures, as I said, are going to be things that can be deployed across whole catchments. We are not just thinking about targeting flood-management measures purely in the river corridor.

One final example that is a bit of a novel approach is species reintroduction, and in particular that of beavers. There are some really interesting studies around the effects that beavers have as, effectively, an ecosystem engineer. They create the kinds of leaky dams I was talking about earlier, and there has been some monitoring undertaken of sites where beavers have been reintroduced into enclosures, looking at the flood waters that are arriving at the top of the site during heavy downpours, how they move through the sites the beavers have modified and the water coming out of the bottom of the sites. The flood peaks are reduced and the volumes of water come out over a much longer period, which provides that flood mitigation for communities downstream.

There is scope within the environmental land management scheme to provide support for farmers and land managers to deliver a whole host of natural flood management measures, not just the in-channel features that we might traditionally think of.

Q136 **Dr Hudson:** That is a really nice description of various different examples that can be funded. Rob and Richard, in the second part of my question we are going to get on to how these schemes can be supported and how the Government could best support these, but do either of you have anything to add in terms of what sort of natural flood measures, on top of what Ali has said, could potentially be looked at by our Committee?

Richard Bramley: Ali made some very good points there. Soil health has become something of a favoured topic of late. Most good farmers would suggest that soil health has been paramount to the way they have farmed all their lives, but we are certainly adapting and changing some of the techniques we are using. On this farm we have had a 15-year programme looking at building organic matter for all sorts of reasons. There are multiple benefits, but, obviously, holding water is particularly important.

I would give a little bit of a shout-out to the importance of land drainage in our productive arable lands. If you have poorly drained land, you have twin evils: you lose capacity to store water and you lose capacity to produce crops as well. You can also get a lot of run-off. I do not know whether it is appropriate for me to make a comment on beavers at this particular moment.

Chair: You may make a comment on beavers.

Dr Hudson: Yes, please make a comment on beavers, if you like. As a vet, I would like to hear about the beavers, please.

Richard Bramley: Yes, the big concern about the beaver is that you do not have control over it. We are using the term "natural flood management". I would suggest that nothing that we do that involves our hand is natural; it is semi-natural. Even the introduction of a beaver has involved a human getting a beaver and releasing it in a particular area and then monitoring it and so on and so forth. I would offer a strong word of caution: we cannot tell them where to build the dam, how much to build it, when to destroy it and so on and so forth. We could possibly, in some more critical areas, do better by constructing a dam using the model of a beaver dam. There is a plus side and there is a minus side. Unless you can deal with the minus side, the beaver is possibly a little bit of a blind alley when it comes to properly addressing the problems we have. I will talk about funding later.

Q137 **Dr Hudson:** Yes, I am holding you back on ELMS to start with. Rob, do you have anything to add on this part of the question?

Rob Wesley: The one thing I would add to the pretty comprehensive answers from my colleagues would be that, in upland moorland, peat moorland restoration or management can play a significant role in slowing the slow of water down catchments. That is something that is beneficial and that we should not forget. Different approaches will be appropriate in different catchments. It reinforces the need to take a catchment approach, looking at the appropriate measures in each specific catchment.

Richard Bramley: Could I jump in there as well? I should have mentioned that water companies are working with farmers. I am involved directly with work in Yorkshire. I am a lowland farmer growing crops, and we are looking at reducing nutrients and sediment going into water courses for their water treatment works, but I know there is extensive

work going on in the Pennines as well. There is collaboration that is already being undertaken.

Q138 **Dr Hudson:** That is really helpful from all three of you in terms of the balanced approach, coming back to my first question, in providing the right benefits in the right places on a catchment-wide and regional basis, so that these measures are put in the right place at the right time and we do not defer issues to elsewhere, as well as putting trees in the right place or diverting streams in the right place. Thank you for that.

This line of questioning has been a bit like a leaky dam in terms of holding people back from getting on to the environmental land management scheme. Finally, the dam is starting to let you through. We will now look at the funding scheme of ELMS as well. Should the Government continue to support natural flood management mainly through flood risk budget or should ELMS play a bigger role in encouraging these measures? The main thing is that we want to make sure the money is provided to mitigate floods and provide support, but what is the best way of doing that? Is it through ELMS or is it through flood risk budgets? What are your views on that? Rob, do you want to go first on this one?

Rob Wesley: Thank you for the opportunity to speak first. To be honest, this is an area where I wonder whether my fellow panellists might be better placed to comment.

Q139 **Dr Hudson:** That is fair enough; I was just giving you first dibs. My third question is going to be specifically to Richard in terms of what support farmers need, so, Ali, do you want to kick off on my second question? I will then hand over to Richard, and that dovetails into the third part of the question.

Ali Morse: Blueprint for Water would take the view that it will likely be a combination of both. Encouraging natural flood management through the environmental land management scheme will have the benefit of seeing those interventions delivered as an integral part of the management of a farm-holding rather than being something that is helicoptered in separately. That gives the farmers involved in natural flood management schemes the opportunity to think about them holistically as part of their whole farm business.

There is also probably the issue of the total amount of funding that is going to be needed to provide us with the levels of resilience that we would like to see as a country and a feeling that not just flood defence funding but Government funding in total is not going to be able to provide all of that funding. There will likely be a need to draw in partnership funding from other sources going forward.

Natural flood management techniques are potentially one of the areas where it might be easiest to attract those partner funding contributions, because they provide a lot of additional benefits. In addition to the flood risk management benefits, they can often have significant biodiversity

benefits. If we think about the development of the Nature Recovery Network, which is going to be put in place under the Environment Bill, the NRN could be used as a framework that will help to identify locations where flood management and biodiversity delivery can go hand in hand. It can also be used as a framework for identifying where different funding sources could be pooled. I am thinking about things like developer contributions for biodiversity net gain and bringing in those other funding sources, which contribute to the sort of biodiversity side of those interventions.

Using the Nature Recovery Network as a pooling device and a strategic targeting device could see a good range of financial support being pulled together for natural flood management techniques in the future.

Rob Wesley: Ali covered this point well. There is probably a case for piloting different approaches, and it may well be that there is not a one-size-fits-all approach. Looking, wherever possible, for approaches that have multiple benefits that can attract potential funding streams from a range of partners will clearly be beneficial.

Q140 **Chair:** Rob, I am sorry to interrupt you. South West Water, for instance, has re-wetted a lot of peat land. Instead of having another reservoir, they are re-wetting peat land on Exmoor, and then that water runs down in the summer. Is there not a way that the water companies can work more with the landowners and farmers to produce this together, perhaps almost coupled with an ELMS payment? Do you see that as a way forward?

Rob Wesley: You are absolutely right. This is an area where a number of water companies are already active. Things are moving in a positive direction on this front. If I go back a few years ago, there was a degree of reluctance in the water sector, particularly from the economic regulator, to look expansively at the potential role water companies could play. There is now much greater recognition of the scope for water companies to play a role in providing multiple benefits and working with partners.

It is fair to say that this is something that could go further and should be encouraged to go further. Water companies can play a key role with a range of other partners to provide those multiple benefits. Yes, this is something to encourage further.

Q141 **Dr Hudson:** Richard, should the Government continue to support flood management through the flood risk budget, or is there a bigger role for ELMS in this case?

Richard Bramley: We have been talking about how we need a catchment approach here. In terms of where the money comes from, as long as the money is going through the same organised catchment approach, that is fair enough.

Certainly in our discussions at the NFU, we have been concerned at the ELMS budget being utilised for a much broader remit than it may have been originally intended. If you start to pull in a lot of funding that would normally have come from a flooding background and start to dump that on to ELMS, you risk there being quite a shortfall. It does make sense for a lot of these things to be brought together under one roof.

When it comes to natural flood management, for example, a lot of that will be around habitat recreation alongside of helping to slow the flow of water or to create different habitats that would store water better and planting the right trees in the right places. One of the key messages we have been trying to put forward, is that environmental land management is not something that works in five-year cycles. You commit to it, and you commit to it long-term. That means everybody has the confidence that that scheme is then going to deliver for many years to come, because that is what it needs to do.

Q142 **Dr Hudson:** That is really helpful. Before I get to my final question on farming, do we need to be careful, moving forward, if there are going to be multiple funding sources, whether that is ELMS or other funding schemes? Could there be an element of confusion as to where people are sourcing the money from and whether they can access it? Do we need to be careful about how we signpost how these schemes are going to be funded?

Richard Bramley: I can see the source of funds coming from multiple areas. It could be from private companies. We have mentioned environmental net gain when it comes from developments and suchlike, so I can see the source of money coming from various different areas. That can be behind the scenes.

The important thing is, at the point of delivery, that it is co-ordinated, efficiently utilised and long-term, and that the people who buy into it, who decide they are going to manage their land in a particular way, first, will be paid when they are told they are going to be paid, if they are going to commit to doing something, and, secondly, that it is long-term, so it will deliver for the long term.

Q143 **Dr Hudson:** You have pretty much answered my final question. Do you have any final comments about what support you feel farmers and other land managers need to deliver these natural flood management measures? Is there anything else you wanted to add to that point?

Richard Bramley: The starting point has to be true recognition for the value that it brings. In a very simple scenario, if you undertake to create a semi-reservoir that protects a village of 500 people from flash flooding, that has a value. It can be calculated. That is what you would want to see. Payment for public goods is supposed to provide that support.

I will reiterate this again. Schemes that have been based around countryside stewardship have really had their problems. People have

been waiting sometimes two or three years for payments for things they have invested in. They have invested their time and money, and they have been left waiting. Gradually, hopefully, that is beginning to resolve itself, but if we start to get a repeat of that sort of scenario there will be real difficulties.

Chair: We know, as a Committee, that getting these payments out has been a struggle at times, and so we have put a lot of pressure on that. I would also put particular focus on the long-term nature of tree planting and environmental schemes. Making sure there is a funding package over five, 10, 15 or 20 years is what we will need to achieve, and that is what we are yet to see. Hopefully, as ELMS comes through, we will see more of that.

Q144 **Mrs Murray:** This question is to you all three of you. You can answer in turn, but I am not going to ask you to repeat what somebody else has said if you agree with it. I want to turn to SuDS, sustainable drainage schemes. Should Schedule 3 of the Flood and Water Management Act now be commenced to promote the uptake of sustainable drainage schemes?

Rob Wesley: The short and simple answer is yes. We have had 10 years of trying a different approach. That cannot be regarded as a particularly successful 10 years. It has been implemented in Wales, so why not in England too? In terms of why, our view overall is that we should aim to have as little as possible and ideally no more surface water entering sewers than at present. Adding more water that does not need to be treated just means there is more pressure on existing infrastructure, and it increases pollution and flood risk and unnecessarily increases the carbon footprint of the industry.

I expect people will be familiar with the benefits of SuDS. This is a natural and environmentally friendly approach that allows more rainwater to be absorbed by the ground through natural features such as ponds and swales. The benefits are clearly understood and accepted. While the current approach is rhetorically positive towards SuDS, it is not conducive enough to them actually happening on the ground. Overall, the current system seems to us to be disjointed; we are encouraging SuDS while providing what could be called an escape hatch for developers not to build them or to build to poor standards.

If the Government were not minded to implement Schedule 3, there are two measures that we think would be very beneficial. We could end the automatic right for developers to connect to public sewers. England really is an outlier in the UK on this. It is only in England that this right exists. It has been removed or did not exist in other parts of the UK. Secondly, we could introduce mandatory adoption, as is already the case in Wales, to give confidence that SuDS will both be built and be built to appropriate standards and maintained through their lifetime.

As an industry we are strong believers in SuDS. We support Schedule 3, but, if the Government were not minded to take that forward, there are key things the Government could do to go beyond the rhetoric of supporting SuDS and put in place arrangements that would really see a step change in their adoption, which I am sure we would all like to see.

Ali Morse: I agree on Schedule 3. I will not repeat what Rob has said, but I will echo the suggestion that we know that adoption and future management are issues when it comes to SuDS. We would like to see more action there.

We know that the number of developments that do not end up progressing with SuDS is higher than it should be. Although there is a requirement there to start with, there are lots of "get out of jail" cards: on the grounds of cost or on the grounds of technical solutions. There are so many different types of SuDS solutions that are available that this really should not be an excuse that is being used in the vast majority of cases.

One of the things that could potentially help there is the non-statutory technical standards, which are the design guide that a lot of local authorities refer to when they are assessing drainage schemes. We know that is good on some aspects, but it is not very strong on the wider benefits of SuDS. It does not really enable the local authorities to push for those wider benefits like biodiversity and amenity value. We would like to see more action on those sides of SuDS schemes. When people picture sustainable drainage, that is the kind of solution they are often picturing, but what we get in reality often falls short of that. Improving the technical standards would be one of the ways we could see better SuDS solutions.

Richard Bramley: Like the other two, the NFU has been lobbying for this for quite some time now. We definitely support it. At the end of the day, flooding is very much exacerbated when you do not have proper surface water drainage. It is very important that local authorities, water companies and everybody takes responsibility for this.

Q145 **Mrs Murray:** I will turn to you, again, Rob, with the final part of my question. The Committee on Climate Change has said that there are inadequate plans to manage surface water risk. Aside from SuDS, what other measures should be prioritised?

Rob Wesley: Our starting point on this would be that surface water management is a shared responsibility. It needs co-ordination and integration across a wide range of parties because of that shared responsibility, and it needs everybody to play their part. That is very much something that the water industry has recognised. We have worked with Government and a wide range of stakeholders to create a new framework for the management of drainage with a particular focus on surface water management and drainage and wastewater management plans.

We have been very pleased to see that the Government have recognised the importance of this new framework and put measures in the Environment Bill to put this new planning framework on a statutory footing, but I have to say that we are disappointed, because the way the Government have done that in the Environment Bill is only through putting duties and obligations on water companies to do what they are already doing: playing the lead role in this new planning framework. For this to be effective, everybody needs to play their part.

Our view is that, as a minimum, all risk-management authorities should have a duty to co-operate in the production of drainage and wastewater management plans and play their part. That could be given statutory force, say, by expanding the definition of flood risk management functions in the Flood and Water Management Act.

Q146 **Mrs Murray:** Do you have any idea about other measures besides SuDS? Have you come up with any other measures as an alternative to SuDS?

Rob Wesley: It will very much depend on the local area, on the catchment and on the specifics of the area. The beauty of all parties coming together to plan together in an integrated way is that the water company, the local authority, the highways agency, the Environment Agency and other parties with an interest in drainage can come together to look at the challenges they face in each area and look at how investment can be most efficiently spent and avoid inefficient spend and missed opportunities.

Those could be schemes that reduce sewer flooding and, at the same time, reduce highway flooding and have an environmental benefit as well. That only happens if people are in the same physical room—or currently a virtual room—to work through this together. Our view is that that will really only happen if all parties have a duty to be together and to play their part.

I would also say that we are particularly for public sector organisations having appropriate resourcing into this area. Just having a duty is probably insufficient. We also need to be mindful of the resources needed to play that role fully.

Mrs Murray: Do you have any examples of this that you could share with us?

Chair: Can we have that in writing, please? The trouble, Sheryll, is that time is moving on.

Q147 **Mrs Murray:** Do you have anything further to add to that, Ali? What other measures should be prioritised? Do you have any examples?

Ali Morse: I have a couple of brief points. Related to SuDS, on the point about going further than the requirements to introduce SuDS on new developments, we need to be looking much more at retrofitting as well. The drainage and wastewater management plans that Rob has just

mentioned will be a good way of prioritising locations where that could happen.

In the future, there will be an increasing need to look at drain-water harvesting. Some of the mechanisms that could be used for this could be very similar to SuDS techniques, the difference being that the water would be taken and used rather than just discharged later. It is important to think about that in the context on the pressures on our water resources. That is an area that will be increasingly important.

Building on Rob's points, the final point I wanted to mention was the duty to co-operate. That is important for surface water and all forms of flood risk. Within the planning White Paper there is a proposal to remove the current duty to co-operate, which is quite concerning in terms of flood risk management. That is something we will be including in our response to the planning consultation.

Richard Bramley: I would just call out the role of drainage boards. There is a strong potential that drainage boards could start to have a role and be created in areas where they do not currently exist. That would obviously have to tie in to the catchment approach we have been talking about.

The NFU is also promoting a national integrated water management strategy as well, which would involve a better redistribution of water in the country. Currently, there is not so much a north-south divide as an east-west divide. We have far too much in some areas and nothing like enough in others. When it comes to agricultural production, water is a key ingredient. It is a key ingredient in the horticultural sector, which is something we are very much looking to see promoted in future policy.

Q148 **Barry Gardiner:** Rob, who is going to rebuild our surface water sewage system?

Rob Wesley: My immediate answer would be that it probably will not be any one single organisation.

Q149 **Barry Gardiner:** That means nobody, in effect, does it not? Everybody is passing the buck. I have letters going back—believe it or not—to 1939 from the different organisations responsible in the Brent and Harrow catchment. We know what the problem is, but we cannot get anybody to do it. All of this business about shared responsibility is really no responsibility, is it not?

Rob Wesley: There is a key role for Government in setting out the hierarchy of responsibilities. Within that, each party with a responsibility for surface water management should play their role and play their role with a long-term focus. Talking from a water company perspective, one of the things we look to do is to look not just in that five-year window but look at the long-term investment requirements. We do not necessarily see that from all other parties with a role in surface water management, and that is where some of the tensions come.

Q150 **Barry Gardiner:** I wanted to highlight the problem of the interconnection, very often in urban areas, between foul and surface water sewers. You will be well familiar with it. Should Government be instructing water companies to embark upon programmes of separation of foul and surface water sewers as a way of stopping the flow that causes foul sewage to be part of the flooding? Should they also be looking at programmes of remediation of misconnection? You will know that, in a lot of houses, builders come and connect up to the quickest sewer, and often they are putting the foul water into surface water sewers because it is easier for them as builders. There are a lot of misconnections in urban areas as well. I would like your thoughts on those two things: separation programmes and misconnection programmes.

Rob Wesley: Those are two good questions on key points. On misconnections, water companies currently do not have adequate powers to be able to address the challenge of misconnections, and we have been pressuring Government to address that gap for some time.

Q151 **Barry Gardiner:** If I may lead the witness again, would that be a helpful recommendation of this Committee?

Rob Wesley: That would indeed be something we would welcome very much. It is a longstanding ask for greater powers to address the challenge of misconnections.

Q152 **Barry Gardiner:** What is your view on the question of separation of foul and surface water?

Rob Wesley: That is a big question. There is no doubt there will be long-term benefits from doing so, but it is not something that could be done overnight.

Barry Gardiner: As I say, I have the letters going back to 1939 here. It is not being addressed overnight. Maybe if Water UK could give a kick up the pants to Thames Water, we might get some progress here in Brent.

Chair: Yes, I was going to add to what you were saying, Barry. This is something that the water companies can actually sort out.

Barry Gardiner: Absolutely, yes.

Chair: I know there is a cost implication, but it needs to be absolutely clear, does it not?

Rob Wesley: You are right. This is a live topic of discussion at the moment. We think it is positive. The Government have convened a broader taskforce to look at these questions. The question around whether separation would be desirable, and, if so, at what pace, is a very live question.

I would go back to the fact that the water companies think it is sensible to take a long-term approach here, set a clear direction and then set a

manageable pace. It would have significant cost implications and disruption in terms of reconfiguring the sewers under many of our streets in many of our cities, but there is no doubt there would be long-term benefits. Having that strategic direction would be beneficial.

Q153 **Robbie Moore:** My question comes across to water resource management and the interaction with flood risk. We have seen that the EA framework says that regional plans must consider water-resilience benefits, including reducing flood risk. Rob, do you see opportunities to better integrate flood risk into wider plans for water resources and the water industry at large?

Rob Wesley: I am sure there are benefits to doing so. Water flows in a cycle and is best considered in a cycle. In doing so, we should be careful not to lose sight of the fact that particular assets are built for particular purposes. There can be benefits in some areas of using reservoirs as a flood risk management tool as well as a way of storing water. One needs to be careful that is appropriate in the particular location.

Yes, there are opportunities to look to integrate more closely water resource management and flood risk management. A more immediate task, from our perspective, is ensuring there is an integrated approach to drainage and surface water management. That is something that we would feel would be perhaps a more pressing need at this point.

Q154 **Robbie Moore:** Following on from that, should there be more pressure put on utility companies to integrate flood risk management as part of their general day-to-day operations, considering, for example, that Yorkshire Water owns a lot of land, manages a lot of the catchment area and has control or influence over landowners in terms of managing some of that potential flood risk that is further downstream?

Rob Wesley: As a broader sector representative, it is perhaps not for me to comment on the details of individual companies' approaches, but I know Yorkshire Water and companies across the country put a lot of focus on ensuring that land they own, manage or have influence on is used appropriately and that flood risk is borne in mind.

Q155 **Chair:** Rob, I am sorry to interrupt you. As Water UK, is it not part of your role to advise water companies on how to manage systems? I am sorry, but your answers are a little bit weak. Surely you should be leading more from the front and dealing with these water companies. I am sorry to be quite so direct, but you need to face up to the responsibilities of what you are there for, or perhaps you are not there for that. Perhaps you can persuade me otherwise, but, as far as I am aware, your remit is to advise water companies on how to improve.

Rob Wesley: We work closely with our member companies and all stakeholders with an interest in environmental management. I would like to assure you that water companies take their role in sustainable environmental management and managing both water resource and flood risks extremely seriously. They would look to work in partnership with a

wide range of stakeholders, agricultural local authorities and other parties. It is very much at the forefront of water companies' thinking.

Q156 **Robbie Moore:** Following on from that, you did not mention householders. A utility company has a direct relationship with householders. Are there not any incentivisation programmes or any types of mechanisms where a water company can interact directly with a householder in terms of mitigating flood risk?

Rob Wesley: One of the key areas of focus where we have been very actively working with householders and consumers more broadly is around the fact that a significant proportion, 80% or more, of instances of sewer flooding are caused by the wrong things being flushed down toilets. Many people do not appreciate that many products that are described as being flushable should not be flushed. That is something we have been working very intensely on, and we have established a scheme to promote products that can be flushed—it is called Fine to Flush—to seek to ensure that avoidable flooding incidents can be eradicated by avoiding the wrong things being flushed down toilets. That is an active area where we have taken the lead, as the water industry, to help individual householders and consumers avoid flooding.

Ali Morse: There are a couple of points I would like to follow up on there. First, on the flushing of wet wipes and items like that, the environmental sector very much supports the lead the water industry has taken there and often has been working in partnership with the water companies to help raise awareness of that issue.

Something additional that utilities providers could be doing is communicating with their customers about the ways they could be prepared for flooding events when utilities themselves are affected. What I mean by that is that we know that, for every person who will be directly affected by a severe flooding event, there are around 16 people who will be affected due to loss of utilities, so power cuts, water supplies going out and so on. The vast majority of householders are not aware of this and not prepared for this. That is something where we could see better communication.

Going back to the water resources and flooding link-up, I have already mentioned the role of rainwater harvesting, which will be increasingly important in the future. The parallel in the more rural environment would be on-farm water storage, which again will be an area that is of increasing importance to the agricultural community.

Richard Bramley: I would just reiterate the central role that farmers, land managers and farmland play when it comes to adaptation and building our resilience to flooding. It is very important that we work together, plan together, look to protect the valuable farmland we have and have a direct payment that recognises the value that not just future schemes bring but that existing floodwater storage brings.

We cannot just accept that floodwater goes under farmland by default. It is something that needs to be mutually considered and, ultimately, that will hopefully lead to a better outcome. Let us start doing things and not just keep talking about it.

Q157 **Geraint Davies:** Given that we have climate change and massive flooding risk alongside droughts, is there not a case for a more national plan, where water companies work together and give water to each other? Is there not a strong case for the nationalisation of the whole industry?

Rob Wesley: In relation to a national plan, that is very much happening at this point. Over the last few years, there has been very extensive work involving water companies, the Environment Agency, Ofwat, Defra and the Welsh Government on a national framework for water resources and to look at the case for transferring water resources across different regions. There are costs and benefits of doing so, so it is not automatically the best solution. This is very much about looking, as a nation, at how we can make best use of our water resources.

You refer to the challenges of climate change, flooding and drought risk. All of those will need significant investment to address and take forward. They will need significant and sustained investment. I would just point to the water industry's track record over the last 30 years of investing sustained large amounts. £160 billion has been invested over the last 30 years, which is roughly about double the rate when the water industry was in the public sector. There is a track record of delivering investment to ensure we have sustainable supplies now, and we can continue that in the future.

Q158 **Geraint Davies:** Are there any examples of areas that suffer from drought near to areas that suffer from flooding, where the two areas have different water companies and the company with excess water will not give the water to where it is needed because there is a different company? Are there any examples of that at all, to your knowledge?

Rob Wesley: That is really not the situation at all. All water companies are working together to look, at a national level, at what is the best way of managing water resources in the country. There are a significant number of schemes being developed or considered to transfer water between different regions, between areas where there is typically more water, in the north and west of the country, to where there is typically less water, in the south and east of the country. The work you would like to see is very much happening already through the water industry coming together to act in the national interest.

Q159 **Geraint Davies:** This is through an integrated network of piping. Is that right?

Rob Wesley: Indeed, yes. The technical solutions will be different depending on the areas. Some new investment in mains and pipes will be required. That is very much being worked through at this point.

Q160 **Geraint Davies:** Ali, do you have any suggestions for more spatial planning in a national plan, given that we now face climate change? These bits and pieces atomised around the country do not look like an integrated plan to see.

Ali Morse: I would like to bring in the idea, alongside the more direct management of our water resources, of thinking about the management of the water environment. What I mean by that is there are a number of projects where conservation organisations are managing nature reserves and other land to deliver a biodiversity benefit but also to reduce flood risk or to provide aquifer recharge.

The members of Blueprint for Water have been working with parts of the water industry on a conceptual project called Naturally Resilient. The idea behind this project is that it should be possible for the environment sector and the water industry to work together to identify conditions under which both sectors could be involved in enhancing the natural environment to make it more resilient to the impacts of climate change, flood risk, drought and so on.

I talked earlier about how our catchments are not in a very natural state; they do not function naturally. When we restore habitats, they are more able to cope with droughts; they recover more quickly; they are more able to cope with flooding events, again, because they recover more quickly. By restoring our rivers and our flood plains, we can help to protect communities from flood risk and also protect our water supplies and make them more resilient.

Sitting alongside that direct management of our water resources, we think there is a need for wider management of the water environment as well.

Q161 **Geraint Davies:** Richard, is there an equal opportunity for farmers to have access to water, or do we need a proper national plan in spatial planning? Are the water companies providing what you need?

Richard Bramley: As long as a national plan is fit for purpose, I do not see a problem for that. It would tie in with our integrated water management strategy as well.

Certainly when it comes to food production, particularly the production of our most important high-value horticultural crops in the east of England, where there is a real shortage of water, we need a plan that recognises how important that is. Bear in mind that we have been relying extremely heavily on importation of a lot of these products from southern Europe, where there is extreme water pressure. We are very fortunate in the UK, in that we actually do have enough water. We have good quantities of water on good land with good farmers. We are in a really good position, but we need to utilise the whole lot and make them work better together.

Q162 **Barry Gardiner:** I want to turn to the issue of working with communities and how they can be given confidence that their views matter when

decisions are taken about flood risk management or the management of infrastructure.

First, to Rob, some of the local community groups have told us that they are concerned about a lack of maintenance of the whole drainage infrastructure, i.e. reservoirs not being used to help store floodwater. The Chair challenged you as Water UK to be more on the case of the water companies in this. How are you working with those communities to ensure the necessary work is being done and that local people feel they are being properly consulted and taken notice of?

Rob Wesley: Water companies put a huge amount of effort into working with their customers and communities to understand the things that matter to them and the things that are important to them. They build their plans based around their customers and their communities.

Q163 **Barry Gardiner:** Rob, that sounds more like what I would expect a spin doctor for one of the water companies to say. You are not there as an advocate for them. You are there to try to coerce them into getting it right.

Rob Wesley: In order to get this right, it needs all parties in the sector to focus on the needs of customers and to base their decisions on the needs of customers.

One of the key questions that has been raised over the last year through the process of the Competition and Markets Authority is whether customers' voices are strong enough in the regulatory framework. Our view is that they are not. There needs to be a clearer link and a clearer direction that customer views should flow through into decisions in the regulatory framework. Customers really should be central to the regulation of the sector.

Q164 **Barry Gardiner:** In practice, what would that take? What would you have to do to achieve that?

Rob Wesley: Companies put a huge amount of effort into understanding the views of their customers and building their plans around those views. The key, then, is to ensure that, when regulatory decisions are ultimately made, those customer views are given the right priority and the right weight so that customers can see the flow-through from providing their views into plans and decisions made on the ground. That is what we should all be working towards. We are working with companies and other parties to ensure that is the case.

Q165 **Barry Gardiner:** It seems to me that there is a lot of carrot and not much stick here, but, okay, thank you for that.

Ali, if I can turn to you now, how can local communities be more effectively engaged on natural solutions to flood management? We have heard from one flood prevention group, the Brompton Flood Prevention Group, that saving people the agony of flooding must come before wildlife, even though nature is also important. That poses it as a

dichotomy where you have to choose between the two. How do you persuade people that there is an integration here and that the one aids the other?

Ali Morse: That is a very good question. Often it is presented as quite a polarised issue: "Why are you worrying about saving water voles when people's houses are flooding?" That is a very false way of looking at the situation. Part of the reason we have a lot of these flooding issues is because our catchments are not managed holistically. Working with communities to help them understand the way catchments would have functioned more historically and how we can start to build back in some of that function tends to help the understanding of the benefits that natural flood management can bring.

What we have seen from natural flood management projects is that, when parties go to communities and propose NFM solutions, often they can be a bit sceptical to start with. Spending time with them to work through those solutions is really key, and it seems to be really crucial to make sure that any funding mechanisms that are there to promote NFM allow the time for that engagement to happen. What has been seen as a result is that often the knowledge and understanding of their local area that those landowners and local communities have then results in a better scheme than was originally proposed.

Q166 **Barry Gardiner:** There should be more citizens' assembly-type engagement.

Finally, I would like to turn to you, Richard. I was impressed by what you said about the concern you have that the flooding budget and ELMS do not simply get mixed up, if I can put it that way. That is a very important thing for the Committee to be aware of. You also said that building a leaky dam to protect 500 households is a public good and that has a value, and therefore it should be represented through ELMS.

I wonder whether you accept the corollary to that. If a land manager does not maintain their water course, as the riparian owner, and allows or sometimes channels it to get off their land more effectively, and that then floods 500 household, the corollary is that a penalty should apply. If we are saying that, if we are providing additional public good, there should be a reward—I am totally with you on that—should we also be saying that, where land managers are undermining the public value of that land, there should be a corresponding penalty?

After all, in a city, if you allow your building to decay to the extent that the chimney pot falls off and knocks somebody on the head, the local council can come along, do the remediation work and charge you for it. Should there be some sort of penalty system where land managers are not making sure they are fulfilling the public benefit that should apply to their land?

Richard Bramley: It is certainly important that people accept their responsibilities, and the NFU has been active in producing a pack for

members on such responsibilities, to help them understand those responsibilities. I am sure we could get a copy of that pack—it is called the water maintenance solutions pack—to the Committee, if you would like to see how proactive we have been on that front.

Q167 **Barry Gardiner:** That would be really helpful. It is great that the NFU has been doing that, because sometimes riparian owners do not understand what their responsibilities are. As part of ELMS, might we be looking at helping land managers understand how best they can exercise their responsibilities and provide training as part of ELMS to make sure they are not just aware, as you are making them aware in the NFU, but are geared up or structured up to be able to carry out those responsibilities better?

Richard Bramley: Personally, I am very much in favour of the carrot approach: we should help farmers and land managers navigate what is going to be a huge upheaval. I have been 30 years now in farming. The world we have been involved in is now going to change very rapidly, and we could do so much better.

Certainly, there is a very important process of education that is going to be part and parcel of that around getting people to understand their responsibilities but also fully recognising the benefits that well-managed farms bring. I have a mantra that many farms have, which is that a healthy environment equals a healthy farm. It is in everybody's interest that we farm that way, and I will not even begin to start talking about trading and standards and things like that.

Chair: Do not tempt me into that.

Barry Gardiner: That is a very good point to end on.

Chair: Richard, you were about to tempt me into somewhere I should not go in this particular debate this afternoon. You know my views on standards for food imports. We will keep up the pressure on the Government there, I assure you.

Thank you all very much for an excellent session. Ali, you talked about the environment and managing the land. You talked about culm grassland, which is in my constituency. You also talked about beavers. We have beavers in the River Otter, and it is always slightly controversial that we have beavers there because it is the River Otter. They can work very well in places, but I accept what James say: they need to be in the right place, and managing them is important. Thank you for the environmental aspects and the land management aspects.

Rob, thank you very much for dealing with Water UK and the water companies. I am sorry we gave you some fairly tough questions, but we very much want the water companies held to account. Thank you for that.

Richard, thank you for the NFU and farming perspective. Land is there to

grow food, it is there to look after the environment and it is there to hold water. We have to balance all these things in the future. You quite rightly make the point that we could grow many more vegetables than we grow at the moment if we have enough water. We are a temperature climate; we must make sure we use that. It is getting the balance between environment, food production and land management right. We look forward to that challenge. We thank you very much for your evidence this afternoon.

I thank members very much for staying with us. I am sorry we have overrun a bit, but we had a very good session. I thank all three of you, and I thank members very much for their patience and time.