



Environmental Audit Committee

Oral evidence: [Flooding: Cooperation Across Government](#), HC 768

Wednesday 13 April 2016

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Members present: Mary Creagh (Chair), Peter Aldous, Margaret Greenwood, Carolyn Harris, Peter Heaton-Jones, Mr Peter Lilley, Caroline Lucas.

Questions 209 - 275

Witnesses: **Rory Stewart MP**, Parliamentary Under-Secretary of State, Department for Environment, Food and Rural Affairs, and **Rt Hon Oliver Letwin MP**, Chancellor of the Duchy of Lancaster, gave evidence.

Q209 Chair: Minister Rory Stewart, Parliamentary Under-Secretary at Defra, and Minister Letwin, the Chancellor of the Duchy of Lancaster, thank you very much for joining us today. This is our final hearing into the inquiry that we are doing into flooding and we are grateful to you for giving us the Worsfold report, which was produced after the 2013-14 winter floods. I would like to open with that report and ask you, Minister Stewart, first of all why that report has not been published. Is there any particular reason why it was not a public domain document until we published it today?

Rory Stewart: The answer is no reason at all. As you know, having read it, it is a very technical report that basically looks at the accountancy procedures and the asset management registers and the way that the economic calculations and efficiency calculations with the Environment Agency flood management system works. We commissioned it for internal purposes, but it is absolutely not a secret and we are very happy to share it with anyone. Indeed, that has been the case since it was produced 18 months ago.

Q210 Chair: Has it been shared with anybody else prior to this Committee?

Rory Stewart: No.

Q211 Chair: Just on that—because I have read it quite closely, as you can imagine—in the report on page 40, Mr Worsfold said that funding should not fall below the 2014 and 2015 levels and funding for flood defences was £810 million in 2014-15. Can you explain

why his recommendation was ignored in the 2015-16 Budget and funding fell to £695 million?

Rory Stewart: The answer is that the expenditure in that particular year, as is the case generally with British Governments, I am afraid, was affected by the fact that there had been severe flooding in the previous year. If you look at flood spending, what tends to happen is when there is a severe flood, flood expenditure goes up for a temporary period, but if you look at the full five-year period, so you do not take the individual annual spikes, you will find that considerably more is going to be spent in this five-year period than that previous five-year period. But can I also go on to say that I—

Q212 Chair: Can I just interrupt you on that, because that is not quite the case, is it? Even with the Budget putting in this extra £700 million, it is not really considerably more, because Mark Worsfold said that it should not fall below the 2014-15 baseline of £810 million a year. That is what he said, and it fell the following year to £695 million. I am sure you are going to argue that coming back in with this extra £700 million that was announced in the 2016 Budget does potentially then get us back up to that £800 million baseline, but Pitt said in 2007 that flood defence spending needs to increase by more than inflation each year. Is that not the case?

Rory Stewart: I am afraid, as I said, if you look at the five-year period rather than annual spikes, the 2005 to 2010 period, approximately £1.8 billion was spent; 2010 to 2015 the figure will be approximately £2 billion, so the amount is going up over those five-year periods. It is correct that in that individual year more was spent, but if you average it over the five-year period and do not take into account the tendencies of Governments to spend more in the year immediately following a flood, you will find that flood expenditure has gone up year on year over the last 15 years in every five-year period and will continue to do so now.

Q213 Chair: When the chief engineer of your water regulator says it should not fall below the £810 million baseline, I do not think looking at a five-year period is an adequate explanation for that fall in funding. But if we can go to page 39 of the report, he also says in that report that there is a strong correlation between asset condition and annual funding, and the graph on page 11 of that report shows what happens to assets when there is a reduction in those year on year—not five year but year on year—budgets. I believe this is from the National Audit Office. Figure 1 on page 11 says, “The number of high-consequence assets” so these are presumably vital flood defences that are in the target condition of being good, “fell from 98.7% in 2011-12 down to 94% in 2013-14”. In his report, he says there is a correlation between asset condition and annual funding. Do you not feel that talking about global funding over five-year periods is potentially misleading to the public?

Rory Stewart: No, I do not think it is. In fact, the key lesson that I take from this report—and I think the Environment Agency takes from this report—is exactly the importance of looking at things over a long-term mechanism, so that we need to look on a five-year, 10-year basis, because that is exactly how you get what he wants, which is a better balance between capital expenditure and our maintenance expenditure and making sure those two things align.

There is a criticism here though, which is an absolutely valid criticism, and it is something that we have tried to change mechanisms in the EA to deal with since he produced this

report, which is, as he points out on the previous page, page 10, there has been a huge change in the way that people account for and measure infrastructure projects in general across the industry over the last 10 years. The problem with the way that the Environment Agency historically did it is it was very reliant on people turning up, inspecting an individual asset and then finding out whether it required maintenance at that point. What he has pushed us towards is to get closer to a world in which, partly relying on better IT and data, we are able to project forward what likely costs are attached to maintaining that asset in a good condition and, most importantly of all, that that ties into the capital decision made in the first place. So I disagree with you on your statement that we should not be looking over a five-year period, I think we should be looking over ideally a 10-year period, but where I do agree with you is that that dip in 2013-14 is exactly what better accountancy procedures recommended in this report, and now taken on board, should be able to achieve. It should stop this kind of stuff.

Q214 Chair: On the five-year period, obviously the Budget post-election set out what the flood defence spending was going to be over this five-year period, but Budget 2016 added in an additional £700 million. Are you saying that Budget 2015 was wrong and that the amount allocated was inadequate?

Rory Stewart: The amount allocated, that £2.3 billion allocated over six years, was more than was allocated in the previous period, so expenditure on flood defences was going up and I think that was the right thing.

Q215 Chair: Was it going up in real terms?

Rory Stewart: Yes, expenditure on flood defences is going up in real terms over all those five-year periods, 2005 to 2010, 2010 to 2015 and 2015 to 2020. The additional £700 million represented a difficult, but I think correct, political calculation, which is that we decided as a Government that people want even more than that. They did not just want an increase in real terms on what had been the trend in the past, but that we need an additional injection. One of the reasons for that is in order to provide the resources for more innovative approaches, both to natural flood management and to a national resilience review, particularly looking at some of our critical infrastructure.

Q216 Chair: We will be asking about that in a little while, but it is interesting that you say it was down to a political calculation. Could you also let us know, perhaps in writing—I am not asking for the details now—what percentage of critical flood defence assets are currently in a good condition? I know there is low, medium and high-risk assets and if we could have the latest figures on that. I think it is probably from the Environment Agency, but they have already given evidence, so if you could write to us with that, that would be great.

Rory Stewart: Sure.

Chair: Thank you very much, Minister.

Q217 Peter Aldous: Touching on the 2013 and 2014 floods, which did affect my constituency, those particular floods were both tidal and then fluvial in Somerset, so we had a real dose in the country at that time, but after that the coalition Government did establish a

new Cabinet sub-committee on flooding. That committee only met three times and then was disbanded without producing a report. Why was that? Why was it disbanded without producing that report?

Mr Letwin: I do not know who that was addressed to, but shall I answer? It was never intended that that committee produce a report. That committee was intended to get some actions taken and what it did was to oversee a series of actions, some of which had to do with Somerset. The work commissioned by that committee led eventually to the creation of the Somerset Rivers Authority, to the action plan being implemented in Somerset and to what is essentially a new way forward for dealing with flooding in Somerset. It also led to a similar process for the Thames Valley, which involved many of the Thames Valley MPs as well, and has eventuated in a new plan for flood defence in the Thames Valley. It also led to a working group that was commissioned to look at how we could improve on the way we respond to floods and that led to the creation of the Ministerial Recovery Committee and to the establishment of a sort of package of measures.

Before that committee to which you referred existed and before those floods of that year, there was the Bellwin Scheme, as you will recall, for doling out money in certain circumstances, up to a certain level or proportion to local authorities. It was decided that was not a sufficient response and you may recall that in that year, we ad hoc invented—also under the supervision of that committee—a series of measures to do with business rates and council tax and so on and so forth. The committee then commissioned, as I say, the establishment of a working group, which led to the formalisation of those into a package, which was then cleared through the Home Affairs Committee, if I remember correctly, as a sort of continuous process of Government. This time around, when we had the floods this last winter, the Ministerial Recovery Committee was brought into action immediately the initial response had occurred. With the package of measures in place, they have therefore been able—and I am happy to go through the details—to administer a whole series of grants and responses much faster than we were before. That was a third strand of action that the committee established.

Then the final strand of action that I can immediately recall from that committee was to ensure that we tuned up the system of information that we receive in Cobra when flooding occurs, which has led to the development of a whole series of different techniques of using ResilienceDirect and other modelling and pictorial techniques to ensure that as we are sitting there dealing with the evolving circumstances of a flood, we see what is going on as much as possible real time and as close to visually as we can get in a given case. That committee, which was chaired by the Prime Minister, was not intended to produce some piece of paper. It was intended to produce some action and it has produced some action.

Q218 Peter Aldous: But from some of the evidence we have had, Mr Letwin, from the Climate Change Committee, I think they were expecting this committee to be ongoing and to produce a report and they were surprised it had not produced a report.

Mr Letwin: Yes. I think that was a failure of communication on our part, looking back on it. I suspect that quite a lot of people were anticipating that. It was never the intention and it is not what the committee did. I think what it did was much more important than producing a report; it produced a better response to flooding. Incidentally, I do not think it produced a perfect response to flooding, and since then we have been trying to improve further, as we may come on to, but it made a considerable step forward.

Rory Stewart: Just very quickly—sorry, this is extremely naughty of me; I am like a Diplodocus and some signal came up from my tail to my head—I noticed that you picked me up on this, you said you were interested that I said “political” so I just wanted to clarify what I meant by that, but can we do that perhaps after?

Chair: After Mr Aldous has finished, yes.

Q219 Peter Aldous: Going right back to Sir Michael Pitt’s report—and he produced many recommendations—it is my understanding that successive Governments did endorse Sir Michael Pitt, but he did recommend as recommendation 87 that an ongoing Cabinet committee should be established to look at flooding. He highlighted the risk of flooding should be brought in line with other major risks, whether that is flu or terrorism. Would you agree with what Sir Michael’s recommendation was at that point?

Mr Letwin: No.

Peter Aldous: You do not agree?

Mr Letwin: Not at all, no. We do not have a Cabinet committee on flu, we do not have a Cabinet committee on many of the risks that are high up the National Risk Register. The reason for not doing that is that it would be a very ungainly way to try to manage Government’s business. No Government have done that. The Labour Government were in power at the time when Michael Pitt reported and they did not do that; we have not done that since.

Q220 Peter Aldous: Has Sir Michael’s recommendation been formally rejected?

Mr Letwin: I have no idea, because it was a long time ago.

Q221 Peter Aldous: A lot of people out there are still waiting for it.

Mr Letwin: Yes. It reported a long time ago. There was, as I say, a different Administration in place. It did not do that. I think it made the right decision in not doing that. I have no idea what it said about that. What I think we need to do in relation to flooding at the moment, which we learn more about all the time, is what we are doing, which is to press forward on a 25-year environmental plan, to press forward on the actions that we are taking as a result of the resilience review we are doing now, the flooding resilience review, which I am obviously happy to talk about in a moment, and to keep working both on the Cobra mechanism and on the Ministerial Recovery Committee, which comes into play once there are the floods in sight. I think that is the right way to do it.

If you had a committee that was just dealing with floods without any very precise agenda, you would have a lot of spinning of wheels and you would then end up with a committee on each different risk and that is not a sensible way to manage things. The overall management of risks to the nation, since 2010 we have immensely clarified through the establishment of the National Security Council, on which I sit, and that is a committee of the Cabinet chaired by the Prime Minister that looks at risks in the round. We regularly have meetings to go through the National Risk Register. We pick out particular risks that are of concern at a given time. Where we find that there are deficiencies, we commission some process to try to remedy those, as we are doing at the moment with the flood review

and the 25-year environmental plan in this context, as we have done in other contexts in relation to Ebola, for example, and so on. I think that is the right way to manage it. Overall, the committee looks at risks and then commissions specific work as and when necessary in response either to events or to understanding what is emerging.

Q222 Peter Aldous: Just one final supplementary: has the Bellwin approach to these incidents been formally updated?

Mr Letwin: Yes, because Bellwin gave only a certain proportion of support. That has now been changed, so there is a much higher proportion of support and the threshold is lower for getting it, but we have also added to it, for example, the Property Resilience and Repair Scheme, which means that householders can get £5,000 to mend their own housing, which obviously was not covered by the Bellwin formula; the reduction in council tax and business rates, which I mentioned, through community grants and there was also a specific scheme invented to enable farmers to put their land back into a reasonable shape after it had been flooded. None of these were under Bellwin and they are all in addition to Bellwin.

Q223 Chair: Thank you. Minister, you wanted to clarify?

Rory Stewart: Yes, thank you very much. When I said that this was made on political decisions, a political decision to spend an additional £700 million, I was trying to draw a distinction between the £2.3 billion allocation over the six years, which was to be spent in terms of what I would call a very narrow, defined economic criteria, driven through the existing formula. What we are looking for with the additional £700 million is an opportunity to do things that either are more difficult to measure, so the key example of that—which maybe we can come back to later—is natural flood alleviation, so planting of trees or offline and online reservoirs—

Chair: We will be asking about that.

Rory Stewart: —or looking at things that are matters of political judgment and political priority, for example, the decision to protect particular types of critical infrastructure, an electricity substation, for example. So the distinction I am trying to draw is between what I would call a narrow economic decision and political and sense of value judgments and broader societal impacts.

Chair: Thanks for that helpful clarification. We will be coming back on to many of the issues that you raised, but for now we are going to turn to partnership funding and a question from Ms Greenwood.

Q224 Margaret Greenwood: The Government's capital spending to build the flood defence systems is contingent on attracting £600 million in external contributions. I understand that in June of last year it had raised £250 million and I wondered what the total is now.

Rory Stewart: We review this very regularly. The situation at the moment is, as you say, we have about £230 million securely tied down. The Environment Agency is pretty confident about an additional £200 million or more, probably about £250 million. We think that we are in a situation where we are pretty confident that that can be delivered, in

other words, I can sit down with EA officials and we can talk through where they think that money is coming from. Some of this is commercially confidential, but they are able, within a closed room, to say, “Company X or Council Y or LEP Z is looking at putting forward this sum of money towards this particular scheme and therefore we have a high degree of confidence that that scheme will be delivered. That leaves a remaining something in the region of £100 million that we need to pin down over the next five-year period”. But I think that is a pretty good situation to be in, looking at a six-year forward programme.

Q225 Margaret Greenwood: If it turns out that the additional funding could not be found, what would happen then?

Rory Stewart: Let us say we took a worst-case scenario—which I think is pretty unlikely, the EA would push back pretty hard on this, and if you look at our green, amber and red analysis of these individual projects, they are pretty confident this can all be delivered—that something went wrong, so we only had £550 million out of £650 million, those remaining projects, if they are projects under the current funding formula that have calculated that the Government grant in aid has to be limited to a certain amount, and therefore the project is only possible if somebody is able to top it up—so this is the “yes, if” principle. So let us say you came to me from your particular city and said, “We want a flood defence costing £100 million” and we looked at it, and in order to be fair to other parts of the country, said, “Looking at our formula and bearing in mind the fact there are 250,000 people below sea level on the Humber, we can only justify giving you £60 million towards that and you would have to find the additional £40 million yourself”. If you could not find that £40 million, then the scheme would be unable to go ahead, which is why it is very important for us for those schemes, in other words schemes where the Government grant in aid is not sufficient to deliver it, but there is a reason why the Government grant in aid isn’t sufficient, that we have to be fair to all parts of the country and treat everybody fairly. We cannot give more money to your area than we would per capita to other areas. Then we have to sit down and consider, very seriously, but again, to return to it, the EA is pretty confident that that number that they have produced, over £600 million, is the number that they are confident they can meet over that period.

Q226 Margaret Greenwood: In the Government’s December 2014 flooding investment plan, it set out that the money was contingent on Defra making efficiency savings of at least 10%. Is Defra on track to make these savings?

Rory Stewart: Yes, Defra is on track to make those savings.

Q227 Margaret Greenwood: Where are those savings going to be made?

Rory Stewart: A lot of those savings at the moment are coming from a combination of bringing our central services together, so in the past the Environment Agency, Natural England, the Forestry Commission, Defra all had individual communications teams, had individual finance teams, had individual logistics teams and had individual estates teams. Those have been unified into a single group. Some of it has come through people leaving and our organisation has become smaller. People have taken either retirement or they have taken voluntary redundancy packages and our organisation is now smaller than it was. We therefore have managed to meet our savings targets over the period.

Q228 Margaret Greenwood: Will those savings impact on Defra's work on flooding?

Rory Stewart: No, because the protected element of our budget, the people who are feeling the strain, are the non-flooding people. Flooding is a very heavily protected element of the Budget. That is why we had this £2.3 billion committed. This extra £700 million, which has just come out of the last Budget, now puts the flooding part of Defra in a much stronger position relative to other parts of Defra.

Q229 Margaret Greenwood: Because the other parts have diminished?

Rory Stewart: Yes. The funding on flooding has been an area that the Government has been determined to increase in real terms, as have certain other areas. National parks would be another example, but correspondingly that means there are other areas that have been cut.

Q230 Chair: Can I ask a follow-up on that, back to Mark Worsfold's review on page 35, where he talks about partnership funding? He recommends Defra and the EA improve processes and procedures around the capital delivery associated with partnership funding to alleviate perceived bottlenecks and to make sure there is an efficient delivery process. So he implies that there are bottlenecks, he implies that it is an inefficient delivery process, because obviously it is stop/start, which is alleged by colleagues in Leeds, the kind of ending of that scheme there and then the beginning of it again and so on. Then the final bit of his recommendation is, "Procedural and process improvements should be sought to mitigate where the approach either distorts economic delivery decisions" so we are back to potentially your bit about political calculations and things that get chosen to be funded or creating delivery in efficiencies. Can you point us to one or two things, procedural and process improvements, that have been made by the Department or the Environment Agency as a result of his review?

Rory Stewart: Yes. The major one that I would point to is that we now have very serious partnership funding teams. If you look at the work that has been done, for example, on the Oxford scheme over the last 14 months, we have more and more expertise, both people within the EA and partners, some of whom are consultants that we have worked with over a period of time, that are better and better at working out how you structure these quite complex deals. A classic deal might involve a major company putting in a couple of million; it might involve the local council or it might be the district council putting in £5 million and the county council putting in £5 million; the LEP might be coming in with £2.5 million. The Regional Flood and Coastal Committee could be contributing money, which could be money coming in potentially through a shadow precept, that could be money coming in through individual householders bundling their property level resilience grants—that would be a much smaller amount of money—but structuring all this stuff, putting this all together into a package I believe we are getting better and better at.

Q231 Chair: So you are saying it was not great to begin with?

Rory Stewart: There is a structural issue that I think is going to be difficult to ever quite overcome, which is where we come into this question of what you are calling a political issue, which I started that hare running by using that word. I probably would have been

better saying issues of judgment that are not purely based on narrow economic cost benefit calculations, so there could be calculations around social justice, that you might decide that particularly vulnerable or deprived communities might require more investment; there might be calls made around particular regions of the country. If we took Leeds, you might make an argument. As you know, Leeds famously did not stack up if you ran it through the traditional formula that simply looks at narrow cost benefit, but as your colleagues have argued very strongly in relation to Leeds, there are other kinds of argument you can make, which are the political judgment arguments. They are arguments around the fact that it has the third largest commuter hub in the country; it has the headquarters of major industries; it has fantastic growth potential, particularly in the finance and insurance industry; it is a very important hub for the whole of the north.

These are things that cannot necessarily be squeezed into a particular cost benefit formula, but which are the kinds of judgments that you have to make and that gets into the partnership funding. I think perhaps the one way in which my gut instinct is, we have to be honest about the fact that not everything that you do can be reduced to the kinds of engineering criteria of somebody like Mr Worsfold, who is working within the private sector water companies on the basis of cost benefit calculations, often on the basis of value for their shareholders. That isn't necessarily always how Government will do its business or ought to do its business.

Chair: Thank you. That is helpful.

Q232 Mr Lilley: The Government have estimated that its flood funding will protect 300,000 properties, but the CCC told us that this figure assumes, “You take an economically optimal and rational approach to every single flood defence question”. Do you agree that your funds will end up protecting fewer than 300,000 properties in practice?

Rory Stewart: My gut instinct is we will make that target. I think we are on track to make that target. The 300,000 is predicated on spending that £2.3 billion over six years in line with the formula. Most of the stuff that I have been discussing with Dr Greenwood and the Chair has been in relation to the additional £700 million. That is where these questions of judgment, nuancing, different kinds of factors will come, but I think the economically rational narrow cost benefit calculations applied through that £2.3 billion should end up, particularly if we add in the £700 million, in delivering those 300,000 homes that we have promised.

Q233 Mr Lilley: Does that sort of tie in with what you are saying about not always being economically rational or engineering driven, but spending on other social conditions, which may be a very sensible thing to do? But I just—

Rory Stewart: Broadly speaking, we are in a situation where we need to pin this down and this is one of the things the National Flood Resilience Review is going to get on to, but the broad picture will be that the £2.3 billion, committed over six years, is likely to be spent in accordance with this clear, rational, economic, transparent mechanism through the funding formula, which puts quite a lot of weight—in fact, most of its weight—on protection of houses and allocates a particular value to a house of £30,000, you churn it through the formula and you generate whether or not it is cost beneficial to work in a particular area. Certainly there are some counties such as, for example, the Humber, who quite rightly do

very well out of those formulas, because they have an enormous number of houses that are at risk. The additional £700 million is likely to be the money that we could use potentially in a more imaginative way to look at things that are not captured by that formula, which could be vulnerable communities, critical national infrastructure, natural flood alleviation schemes.

Q234 Mr Lilley: Finally, what are you doing to ensure that the £2.3 billion is going to be spent as efficiently as possible to maximise the number of properties protected from future flooding?

Rory Stewart: That slightly comes back to what I was saying, which is that we will be analysing that by looking very hard at the ways in which the formula operates and making sure that the Environment Agency justifies every one of those projects within it, but we have published the full project list. There are 1,400 projects that we have listed. That is where the 300,000 homes come from, and we believe we can deliver those 1,400 projects for the £2.3 billion over six years, so that is why I am quite confident about this.

Mr Letwin: Can I make two observations that may help by adding to what Rory said? One is that the point in part of introducing the formula-driven system for allocating the sort of traditional house/community defence money, the £2.3 billion in this case, was not just to have an economically rational and fair system of distributing the money but also to have a less than 100% contribution to each of the schemes, hence the partnership funding, in order to give an incentive to each place that puts forward a proposed scheme not just to bid for money, as had been the case in the past before the formula was introduced. Before the partnership funding system was in place, it was a sort of free ride in those days. If you had your money, you had 100% of the money put up, so there was no incentive to sharpen your pencil and reduce the cost, so far as possible, of the scheme in question.

Now, because you are not going to get 100% and you have to come up with some partnership funding of your own, you have a quite strong incentive to work with the Environment Agency to come up with a cheaper scheme that will deliver the results and to balance in an optimal way cost and benefit. I think that is quite an important advantage of the way it works now and it is one of the reasons why I share Rory's optimism both about the delivery and the protection of the 300,000 homes from the money and about the efficiency with which the money will be spent.

The second thing that may help to clarify is that what Rory is describing about the difference between the £2.3 billion formula-driven scheme and other ways of spending money on flood defence is part of a bigger picture, I think. As we have thought more and more about this—and this is one of things very much coming out of the combined work on the 25-year environment plan and the flood resilience review—we have become more and more persuaded that the formula is a very good way of allocating money between different places in relation to the number of people that live in each of those places and in relation to the benefits those people, as householders, get from traditional flood defence. It is not a good way, however, of getting to the bottom of the protection of critical local infrastructure. We never have as a nation thought it was a good way of allocating money for national critical infrastructure.

Under a succession of Governments of different views, things that are now defined as critical to national infrastructure have had other parallel definitions, and in your time as

Secretary of State and in the Chairman's time when Labour were in Government, have been highly protected outside any formula. For example, all our nuclear power stations are protected to what is I think misleading, they call it the one-in-10,000 standard. It is nevertheless a high standard of protection from flooding. That was not done on a formula, it was done on the basis that people thought it would be a pretty bad show if a nuclear power plant was flooded. We have never, however, under any Administration, taken a long hard look at the kind we are now taking at the question of local infrastructure, which does not from a national perspective look like critical, because it "only" affects 10,000 or 15,000 people. If you happen to be one of those 10,000 or 15,000 people who happen to be in the place that is affected by something that goes down that has an effect on 10,000 or 15,000 people, boy, does it seem critical. So you cannot capture that in a formula.

The revealed preference—and this is partly what Rory was saying to you when he was talking about the decision to spend extra money—of the British public, when it was faced with a Vodafone server switch apparatus in Leeds becoming flooded, which prevented the airwave system from operating properly and prevented people from using their mobile phones during a flood, which is one of the times you would most want the mobile system to be operating, was that this was a pretty poor show, in much the same way as they might have said it was a pretty poor show if water had got into a nuclear power station, only that thing in Leeds affected a very small number of people by comparison with the things on the critical national infrastructure level. So we are now trying to find ways of protecting the—

Chair: Minister, I am going to move you along, because we are going to come on to infrastructure and national critical and so on. We do have a specific set of questions for you on that, but thank you, that is helpful. We are going to move on to Mr Heaton-Jones back on the funding.

Q235 Peter Heaton-Jones: I want to go back to the question of the £700 million extra funding, not unnecessarily, I hope, to hunt the hare that might have been set running earlier on, but to ask a couple of specific questions. The first one is this: is it fair to imply that if in the Budget the Government decided to spend an extra £700 million that therefore previous spending levels were insufficient?

Mr Letwin: No, it is not. The purpose of the previous spending was to do what I was describing to Mr Lilley. To have an adequate programme to protect another 300,000 houses is essentially what that £2.3 billion buys. That is, as Rory has said, an increase in real terms of what had been spent before and was part of a trajectory. As I say, what happened as a result of the experiences we have been through is that we recognised that the attitudes that this nation has taken to flooding, as revealed by its Governments over a very long period, had not adequately recognised two critical features of the scene, one of which is about the protection of infrastructure that is not part of the £2.3 billion and that had not ever figured on anybody's horizon from the point of view of major spending, and secondly, to adopt a new approach to the slowing down of water, which is part of the 25-year environmental plan.

Back in 2010 when the original programme was set up, and as the amounts for the 2015 to 2010 period were being settled at the tail end of the last Parliament, people had not got to grips with either of those activities and either of those needs. So the money was adequate

to the task that it was set, but we have identified new needs. When we looked at those by comparison with other things that Government are spending money on, we came to the conclusion that this was a high priority.

Q236 Peter Heaton-Jones: The criticism that is quite often heard though is that Government spending in these areas is reactive rather than proactive, that there is a lack of a long-term strategic planning to say, “This is the sort of funding we are going to have over a long-term period” so you have to wait until you get a bad flood, you have to wait until the Somerset Levels are underwater before we suddenly get an increase in funding of, in this case, £700 million. The difficulty that we have heard quite often expressed in written and oral evidence in this Committee is that it is that sort of up and down, that lack of a trajectory, to choose your word, which is proving the problem when people are trying to plan adequately for flood defences.

Mr Letwin: I do not accept that. First of all, it has not been up and down. The Chair brought up the question and Rory responded to it, rightly, that there has been inter-year fluctuation within these five-year periods and that, we think, should be smoother and we are taking steps to get it smoother in future. But the trajectory, five year on five year, as Rory has explained, has been up and up, not up and down. So I do not think that is the problem and I do not think that anybody can accuse the Government of being short-termist about this. It is a very unusual thing in public spending terms to get the Treasury to agree to a six-year programme. We have managed it on this and we have managed it on transport. It is very difficult. Previous Governments have not been able to find in general long-term programmes. The 25-year environmental plan is one of the longest-range things that I am aware of in British Government this century, so I think there is a great deal of long-term thinking that has gone on here.

I think what is really important to recognise though is that, of course, if you are a sensible Government you react to the circumstances you find yourself facing. It is not just one incident. If we had one incident of flooding, we would have simply done whatever it is we would have done. All of us in this room and all of us in this country have experienced a succession of years in which things have happened that have been distressing. If we had been told by all the experts that for sure this was just a very exceptional moment and that there was no risk of this becoming more usual, then again we might not have taken so much heed of the need to look again at whether we should be doing more things of a different kind that we had not been doing before. But what the experts all say is that although it is by no means clear yet whether what we have been experiencing is a product of a long-term trend, or indeed is a product underneath that of climate change, there is at least a possibility that we are seeing something that is a long-term trend. So it is reactive but it is reactive not to a short-term moment, not to a blip, but to the concern that has been revealed that when we repeatedly get flooding we should be well prepared as a nation against it, even better prepared than we would otherwise have been, because it may also be something that continues and intensifies.

Q237 Peter Heaton-Jones: Can I look at the £700 million in a little more detail and bring into play a very local example from my constituency, if I may, because I think it illustrates a wider point? Of the £700 million, £200 million is earmarked specifically for maintenance. Braunton is a village in north Devon that people might remember was flooded very badly over the Christmas period of 2012, lots of businesses and homes were devastated.

When I took the Environment Agency there 10 days ago, they expressed the view, which is agreed to by local people who know the river system best, that maintenance is the key to making sure that no more flooding happens. There has been £1.2 million spent on infrastructure, which is great. The key going forward is maintenance and I understand that is not an uncommon view in many places. My question is: of the £700 million total, is £200 million a sufficient proportion to be spending on maintenance or should it be higher?

Rory Stewart: We believe it is good. That is an extra £40 million a year and that is going on top of an existing £170 million commitment. My view, and I think it would be the view of the EA—and it would be interesting to ask your area manager in north Devon—the consensus would be that that is the right ratio between maintenance and capital expenditure. There are still bigger structural questions we can get into in the way that we do this kind of accounting and finance in Government, but I think broadly speaking that is the right relationship between those two.

Q238 Peter Heaton-Jones: You would contend that an increasing maintenance budget is important to maintain?

Rory Stewart: Yes. That is why part of this is going on maintenance.

Q239 Peter Heaton-Jones: That brings us to a slight difficulty, though, doesn't it, Minister? Previously, and this is quoted in the Worsfold report, Defra has passed the view that increasing maintenance budgets will not actually help with the long term. They have said that, "It will not lead to additional net flood risk benefits". What has changed? Has something changed?

Rory Stewart: Yes. Clearly the view of our engineers on this must have changed. I am not aware of that response, but absolutely we believe that £40 million extra spent on maintenance will be useful and is a productive use of money.

Q240 Peter Heaton-Jones: So, the view is very strongly agreed to by the EA and by Defra that maintenance is important and that that budget will be—

Rory Stewart: Maintenance is hugely important. Just to run through, for a lot of these assets it is a question of a stitch in time saves nine. If you start letting water go through cracks in some of these seals, you are going to end up with enormous problems. If you allow earth banks to begin to erode, you are in real trouble. If you do not clear culverts, ditches, screens, you are in real trouble. Maintenance is absolutely central and, ditto, getting down to the Thames Barrier, keeping our pumps and engines going, all of that stuff requires continual maintenance.

Q241 Peter Heaton-Jones: I want to be absolutely clear that it is no longer the view of Defra—if indeed it ever was, if Worsfold is correct in saying this—that an increasing maintenance budget will not help mitigate—

Rory Stewart: The only possible explanation I can have for why somebody would make that statement is that they might say increasing the percentage spent on maintenance does not make sense, but hopefully they would have agreed with me that as you increase the overall amount of your capital expenditure you should increase your maintenance budget accordingly.

Q242 Peter Heaton-Jones: That is useful to know. Thank you. I have one final element to this question. It is a straightforward factual question really: how many of the Environment Agency's high consequence flood defences, as they are called, are currently failing to meet the EA's required condition? The target is 98%. Are we hitting that target?

Rory Stewart: I can get back to you on that. I hesitate to guess. My view is that we are close but I will get back to you with the number and perhaps I can write to the Chair.

Chair: Thank you very much indeed.

Q243 Carolyn Harris: The flood and coastal risk management, or Worsfold, review concluded that, "The management of flood defence assets is primarily driven by asset condition, which does not help the Environment Agency forecast service and expenditure requirements". How are you supporting the Environment Agency to rectify that problem?

Rory Stewart: The first thing is much better IT and technological solutions. Increasingly we will have cameras over a dam or a defence rather than having somebody physically going and inspecting it. We are moving away from paper-based systems, so people are now taking tablets to the site. We have what we believe is an increasingly sophisticated integration between our calculations on the ongoing maintenance cost of something and the initial installation. To give you a concrete example, if we are building an access to a dam now, where in the past we might have looked at building a gate, which is a cheaper thing to build, we would now look at building a ramp. The ramp is more expensive in capital terms, so it is more expensive to install a ramp than a gate, but in maintenance terms it is much cheaper. Once the ramp is there you can go up and down the ramp. If you build a gate you have endless problems on the operation of that gate going forward in the future.

We have got better at that. There are still some problems, which the Chancellor is much more fluent at explaining than I am, in terms of basic requirements of Government accounting on separating capital expenditure and other kinds of current expenditure, but we have got much better now at analysing these projects in economic terms and making sure that when the EA decides to invest it is taking into account what the long-term maintenance costs might be of that asset before that decision is made.

Mr Letwin: The Worsfold report is a very useful document, and incidentally we are very happy also, if the Committee wants to see it, to send you the action plan that the Environment Agency developed internally as a response to it. Indeed, if you want at a later stage to ask them to come and explain how they have implemented that action plan, that is also, of course, available to the Committee. As you read the report, I think one of things you are bound to be struck by is that it is the report of its author who is somebody who has been operating in a commercial environment in water companies. In a commercial environment you have a piece of luck—

Q244 Chair: Sorry to interrupt you. He is the chief engineer for Ofwat. He is the engineer for the regulator.

Mr Letwin: Yes, indeed, but the things that he is constantly dealing with and the things that he is making demands of, namely the water companies, are commercial operators that—

Chair: Asset management plans. He looks at AMPs.

Mr Letwin: Yes, exactly. They have a piece of luck, which is that when you look at their reports and accounts and when their shareholders look at analysis of them, which is what water companies pay attention to, and when they make submissions to the regulator, they don't distinguish between one kind of budget and another kind of budget. They don't have constraints arbitrarily imposed on revenue and capital, so they try to come up with a straightforward optimisation continuously of capital spending and current spending. Any company does that from a corner shop to a great utility. Governments do not do that. All over the world governments, for very good reasons that have to do with fiscal management, divide capital spending and the funding of it from current spending and the funding of it. That produces much better fiscal control in various important respects but it has a disadvantage that if you are then a particular department you have a revenue budget and a capital budget.

What Defra and the Environment Agency have been trying to do in recent years is to overcome that natural problem, the problem of fiscal accounting, and one of the ways they have been doing that is just what Rory described, which is at the beginning when you are making the investment looking at the whole life cost, which is one of the things that Worsfold suggests. That is accomplished now, that is the way it is done now. But in addition you have to make a decision when you are putting in a bid, if you are Defra, to the Treasury for a five or six-year plan roughly how should you divide your bid between capital and revenue and then get the option to change it as you go along. That is where now, as Rory says, people have got better, but I am sure we can do better yet in future, at trying to estimate what the right balance is between those two.

It may well be that Mr Heaton-Jones's observations come from an age in which people were not paying as much attention as we now pay to the question: have you got the right balance? We certainly accept, it is obvious common sense, that if you build something that then falls down and you have to be doing repairs, it is not much use and that maintenance is as important as capital expenditure.

Q245 Carolyn Harris: You seem to have got your head round the way things work exceptionally well and now I feel I have been informed. The Worsfold review made 11 key recommendations. Maybe you could tell us what you have done to implement those?

Mr Letwin: As I was saying, I think the best thing to do from that point of view, if you allow us, is for us to send you the action plan that was the response to this from the Environment Agency, which Ministers then required, and for you to interview the Environment Agency and hear from them exactly what they have done in relation to each of the action plan items. It is a pretty elaborate process that has been gone through and you will see that this has all been taken very seriously.

Chair: That is helpful. Thank you very much indeed for that. We are going to move on to the whole catchment approach to risk management.

Q246 Caroline Lucas: I wanted to come back to the issue of whole catchment approaches and the natural flood management that you have already touched on earlier in the discussions. Almost all the witnesses that we have heard from have highlighted the benefits

of taking this kind of approach, but I wanted to get a better sense of the extent to which you think that is part of the answer. I know that there is also concern about how difficult it might be to access some of the funds, how relevant the formula is for those kinds of measures. The question is how important is it to you and what are you doing to make it more significant?

Rory Stewart: The catchment approach is absolutely central to our 25-year environment plan and in particular those bits of the environment plan that relate to flooding. The basic insight is one that you are very familiar with, which is that when you are dealing with water the decisions you make in relation to the environment and the decisions you make in relation to water scarcity for drinking water, in other words a reservoir, directly impact on excess water causing flooding. Going from the top of the catchment down to the bottom—planting trees right up at the top of the catchment, restoring blanket bog that could absorb and slow the flow, looking at particular reservoir levels, allowing rivers to meander, looking at particular bank management techniques, looking at the exact structure of existing weirs, dams and their natural equivalents, for example beavers dropping trees, right the way down to the pump in the high street or the highways engineer looking at the drainage on a piece of national highway—all of those things ultimately interact to end up with water getting into somebody's house. We need to work out how we fundamentally prevent somebody from being flooded in the most economic way but also in a way that is socially beneficial. There are huge examples of ways in which we can do this, and you will have seen examples, for example from Wessex Water where they have looked at doing this, and Dartmoor and Exmoor has a number of examples.

The answer to how we do it, problems around money and things, is what the Cumbrian Floods Partnership is really about. There we have appointed a director for the Kent catchment, a director for the Derwent catchment and a director for the Eden catchment, whose job is to model that entire catchment from the source to the sea and spend their time sitting down with farmers, the water company and residents in order to come up with the best possible plan that looks at the whole catchment and does not simply rely on hard defences. What people have experienced in a number of communities around the country is that with these flood defences, many of which were built with an extra two or three feet on the top of the wall to take into account climate change, in an extreme weather event, such as the one that we had in December when you break your 24-hour rainfall record and your 48-hour rainfall record or your monthly rainfall record, the water will come over the top. The art there—it is not quite a science—is working out how you make some parts of the water flow more quickly and other parts of the water flow more slowly so it does not get there at the same time.

Q247 Caroline Lucas: How do we get more funds going into it, is the bottom line? There are lots of very good examples like Pickering that people often talk about and yet what we are hearing from some of the people who are giving us evidence, and also people in my constituency, is that they are finding it really difficult to access the funding for natural flood management. The people in my constituency didn't want it for Brighton; they were working on a Sussex programme. They are finding that the kind of criteria that they have to fulfil in order to access funds are not ones that are easily demonstrable for them.

Rory Stewart: I think I would probably need to look at individual cases but it is important to understand that Pickering was funded by us. It is a Government-funded project. That is money from the Government to its agencies.

Q248 Caroline Lucas: Yes, but to replicate that, to scale that up, to have more of that happening is difficult.

Rory Stewart: What are the sources that you can look at? You can look at using Countryside Stewardship Scheme money. You can look at Environment Agency money, its own money from its capital programme. You can look at accessing some of the money that comes out of the £700 million that we have been discussing earlier.

Q249 Caroline Lucas: Will the flood review itemise all of those and make it easier for people to know how to get it and will it also have measures in it to incentivise farmers to be able to be helpful to this kind of approach?

Mr Letwin: Can I just explain? Your question illustrates a common misperception, which we can correct now and it will avoid other confusions. The 25-year environmental plan is being developed as we speak; the flood review is being conducted as we speak. They are not the same, they are different. Although we are doing them in close conjunction and will indeed produce the first results of each at the same moment, I think, before the summer, you should not imagine that the flood review is going to resolve issues that relate to the environmental plan or indeed that the environmental plan—

Q250 Caroline Lucas: It will make recommendations, presumably.

Mr Letwin: No, it is not. If the Committee wants, I will describe what the flood review is doing but just to be very clear, it is not doing that. The 25-year environmental plan will undoubtedly require, in relation to the river catchments, as Rory said, to draw on a range of resources that will be specified under the environmental plan as it develops catchment by catchment. It may well be that we collectively decide to spend some part of the £700 million on the environmental plan, the part of it that deals with the catchments. That would be a decision that has nothing to do with the flood review but has to do with the 25-year plan.

Q251 Caroline Lucas: Okay, but the question still remains that for people who do not really mind what the mechanism is but they are sitting there wanting more resources to go into natural flood management, what reassurance can you give that in any of the processes that are going on right now there will be significantly more funding going to it, it will be easier to access and it will include things like incentives for farmers?

Rory Stewart: I think the fundamental challenge at the moment is not really money. The fundamental challenge at the moment—and this is true even with Pickering—is specifying exactly what the consequences or the benefits are of these particular schemes. That is why the Cumbrian Flood Partnership and the work that we are doing with our natural capital pathfinders is so central. Once we get the science right and the evidence right—

Q252 Caroline Lucas: Given that the evidence is not there, sufficiently, what else do you need before you can do more?

Rory Stewart: I will explain exactly what you need. If you look at a specific flood model, we basically have two kinds of model that we use when we are doing cost benefit analysis around flooding. One of them is about flow rates and the second is about river levels.

Those are the two things that the Environment Agency measures. In constructing your flow rate model for a specified catchment—let's take a catchment above Appleby—you have to feed various kinds of data into that model. You feed in projected rainfall. Projected rainfall is reasonably easy to model, although we have got it wrong, because you do have 100 years' worth of rainfall data from which you can project what you believe the rainfall is likely to be on the basis of the last 100 years. Of course you can end up in a situation where—I am just putting a small proviso—in December 10% of the rain gauges in the United Kingdom showed their highest levels ever. That is a problem with rainfall, but rainfall is the easier bit. You have to look at how much the soil is absorbing the water and the directions in which the soil is absorbing the water. Some of the water goes directly down, in which case you are going to have to look at the underlying geology underneath the soil. You are going to have to look at the absorptive capacity of that specific soil as well as the geology. You are going to have to look at groundwater movement, so one of the things—

Q253 Caroline Lucas: Maybe it is because it is really hot in this room and maybe I am just not getting it, but I don't understand. The key question I am trying to ask, which has been raised by many witnesses, is that they want more funding. Their perception is that they cannot get funding for natural flood management. I don't understand if your answer is telling me that that is because we need more information about the different things you were saying before the funds can be released or in what way your answer is relevant to my question.

Mr Letwin: I think I can answer your question. I think Rory is trying to tell you something very deep and maybe it is worth going into later, but let me directly answer the question. You are presupposing something that is leading to you asking a question that cannot be answered. It is the wrong question. We are not going to be dealing with catchments on the basis of people coming up with their own schemes and applying for money. The catchment plan in the 25-year environmental plan, catchment by catchment, will be a wholly developed plan that integrates all the elements Rory is talking about and will be funded appropriately. It is not a question of whether some local group has an idea and comes along and asks for a dollop of money. This is very complicated interactive stuff, so what you have to do is build up a picture of the whole catchment, work out what the sensible thing to do is—that is work of some months or years—and then fund the whole—

Q254 Caroline Lucas: Can I just clarify that I am not talking about scientists, I am not talking about a group of people who have just got it into their heads to think that they would quite like to make some—

Mr Letwin: We will be funding it. A particular scientist at one particular point on a river can't solve this. The whole catchment—

Q255 Caroline Lucas: No, and nor am I suggesting that. Pickering was not that either.

Mr Letwin: If the whole catchment is being modelled and the whole catchment has a complete plan, what I am telling you is that we will then fund that plan appropriately, the whole of the plan.

Q256 Chair: Can I intervene? Can I ask two very short questions with short answers? First, when will this very detailed, technical, scientific modelling be complete? Second, you have mentioned three or four different river catchment areas. How many river catchment flood defence plans do you think will be funded by 2021: one, none, three, six? Give us a ballpark figure, or is it just too early to say and we need to see you in a couple of years?

Rory Stewart: The objective is to move the country towards a catchment-based approach to flooding. We are doing the detailed work in developing it with these three catchments in Cumbria. You will get the first draft findings coming through in July and then you will get the most detailed picture coming through in December of this year for those catchments. At that point, on the basis of what we discover or establish in those catchments, we are then in a position to make the call on how quickly we can roll it out across the rest of the country. But we are in absolutely no doubt that a catchment-based approach is the logical approach.

Mr Letwin: That will be funded. We will discover the various sources of funding that are feasible for that and include what we need to include from the £700 million, so that is funded.

Q257 Chair: We are starting with Cumbria and that is pretty much complete by the end of this year.

Mr Letwin: The work is complete to establish what needs to be done somewhere in 2017; then you have to do it. Then you have to see how it is working. The point of the pathfinder is to learn how it is all working with the director for the whole catchment and the whole plan unrolling, and then gradually to add more catchments as we go forward. In each case, to answer Caroline Lucas's question, as we go, catchment by catchment, we will fund each project. There is no question of coming up with a project and then just twiddling our thumbs and hoping that someone will dollop some money at it. As we develop these, we will fund them.

Q258 Caroline Lucas: How are local people going to be involved in the decision-making?

Rory Stewart: Let me explain.

Chair: Very quickly, please, because we are running out time.

Rory Stewart: The answer is that the key role of the catchment director is making sure that local people and local communities are involved all the way through. What is happening is that the Derwent catchment director is spending a lot of time in Keswick and Cockermouth but also in all the villages along the catchment, and a lot of that time is spent listening. It is spent looking at what natural flood mitigation measures could be taken but also whether there are particular issues around dredging, trees growing on banks, rivers backing up around bridges. It is that granular local knowledge and making sure that we take into account communities' priorities. What we have learnt is that there is no point an engineer sitting in London coming up with a master plan that is not believed in by the community. The community has to feel all the way along that they understand what we are doing.

I apologise to the Chair, but the reason I am being very detailed about this is that this is unfortunately the conversation that we have to conduct with the public. If even this Committee does not have the patience for me to explain in detail what the problem is about calculating what exactly the consequence of planting 1,000 oak trees in a particular location will be and how the cost benefits of that compare to other kinds of funding, that is the challenge that I am facing day in, day out, to explain to people that it will be 25 years before these trees begin to have an impact, 50 years before they have a major impact. The root structure, the gravel structure, the flow structure, the way that the catchment can change in a flood event, all mean that these things are quite easy for George Monbiot to sit at this table and talk about but modelling it and coming up with cost benefit analysis that we can get anybody to agree on, let alone the public to sign up to, is quite challenging.

Caroline Lucas: With respect, it is nothing to do with lack of patience. Many of us around this table do know what we are talking about and we are just trying to get to the point at where the funding is, given that so much evidence generally—and I wasn't talking about George's evidence—was about the funding. But let's move on.

Q259 Chair: If I can finish on this and say we did listen and we understand it is really complicated and we do also understand from communities that they can't wait 50 years to be protected by flood defences. We do understand that, most of us from our own personal constituency experience. I am very grateful we have fully funded flood defences in Wakefield after 2007, so fortunately we have not been affected.

Just to move on, if we can, we touched briefly on the critical infrastructure and resilience and we have had a round table on that, which was very interesting. The Committee on Climate Change Adaptation Sub-Committee did its first report and said that the Cabinet Office was not really aware of which critical infrastructure assets were protected to a one-in-200 year level and they recommended that the 2016 sector resilience planning should take that into account. Minister Letwin, could you let us know where you are on that?

Mr Letwin: Yes, certainly. Among those who have been involved in the review are those on the Adaptation Committee, including Lord Krebs, but I need to step back and explain to you that we are well beyond the so-called one-in-200 level. The first thing we have tried to do is to get clear about what the modelling all means. I think it is incredibly important that this Committee should consider that and I hope when I have published the first round conclusions of the report in the summer I will have an opportunity to come back and discuss them in detail. It has certainly been a revelation to me that for 30 or 40 years Ministers in successive Administrations have sat in successive rooms and listened to successive people talking about things and thought that they understood what was being said to them, and none of us have understood. It is a sort of CP Snow "Two Cultures" problem. There are the scientists over here, the rest of us are here, and we thought there was communication going on but it was not. You might think that if something was protected to a "one-in-200 level" it meant that you would expect that there would be a problem of that kind only once in 200 years, but it is not so.

Chair: No, I think we understand probability. I certainly do. If I can move you on.

Mr Letwin: Given that, what we have done is to try to model extreme flood outlines and we have done that by bringing together the Met Office with the Environment Agency. The basis on which we have asked the question is: if you take the worst case that has ever

occurred and you add about 30% to it, what do you get? You start with the rainfall and you take the worst rainfall case for any given area and you add 20% or 30% to it and then you put that result through the Environment Agency model for that area and you see what you get. The answer is you get to something very similar in all cases—we have tried some coastal cases and some fluvial cases—to the “one-in-1,000” maps that the Environment Agency had been using.

Q260 Chair: Are you saying that that is the new standard that you want all critical infrastructures to reach?

Mr Letwin: With a point that I am about to raise, yes, broadly. We are now looking at extreme flood outlines that are the old one-in-1,000 maps for each area of the UK and what we have done is to take all of the infrastructure that serves more than “n” people of a particular kind. In some cases in relation to certain utilities you take 5,000, in some cases 10,000, some cases 15,000 people. It depends on which particular kind of infrastructure we are talking about. We have mapped one against the other for the first time in our nation’s history and the intention then is to identify—and we have almost although not quite completed this work—which of the infrastructure assets that are over those thresholds are already protected against an extreme flood outline that used to be called one-in-1,000, which means that we have an 80% confidence that it will not be exceeded in terms of total monthly rainfall in any one region of the UK in the next 20 years. That is all it means. It is a very different picture from one-in-1,000, but we have mapped those.

Just to complete, because we have spent a lot of time thinking about what the Adaptation Committee has said, then what we are doing is to work out which of those pieces of infrastructure have plans already in place to get them protected against those extreme flood outlines over the next five or six years. In the cases where they either don’t or it will be some way off, we are now working out what temporary measures can be taken in the interval. We have found that in about 40% of the cases we can put in temporary defence. In the other 60% it does not make any sense; we have to rely on the permanent defences coming in. But where we can do the temporary defences we will. I am now entering into a series of discussions with each of the utility companies, and where appropriate their regulators, in order to ensure that we can produce a plan so that this Christmas, not some other time, we have the temporary defences in place around England and the logistics in place around England so that if at Christmas time there is an extreme flood event of the kind portrayed in those maps affecting the infrastructure and it was possible to bring a temporary defence, it will be there to defend that piece of infrastructure. We are very directly responding at a much higher level to what the Adaptation Committee has quite rightly drawn attention to.

Q261 Chair: That is very helpful. We read very carefully the adaptation plan and certainly electricity seemed to be well looked after, pretty resilient, water reasonable.

Mr Letwin: The energy industries are better. I would not say water is reasonable.

Q262 Chair: Well, I am paraphrasing from them. But we were particularly interested in ports and airports. You will remember in the 2013 floods thousands of people were affected by the inability to fly from Gatwick and it was very simple, and Gatwick have

worked very hard. From recollection, and I could be wrong, when they came they said they are now at one-in-50. All the work that they had and they are now only at one-in-50, and that is the second largest national airport. What conversations are you having with airports and ports in particular? Ports are responsible for the import of our food supply and that affects the whole nation.

Mr Letwin: The first thing to say is that we are currently looking at ports and airports. They are lower on our list of priorities than water treatment and energy and telecoms because there is a risk to life and limb from those utilities being out of commission and a very severe risk of significant harm to people's wellbeing. Whereas as a matter of fact, having done a resilience study on the ports, I am conscious that they tend to drain after a shortish period. Although they do indeed import our foodstuffs and much else beside that is very important, there is a great deal of substitutability between one port and another and, as it happens, the basic foodstuffs on which life depends largely are not imported. We mainly import things that are the non-basic materials. With airports, again a great deal of substitution is available and there is very little risk to life or limb or even to significant wellbeing. So, we have an order of priority. We are dealing with utilities first. Once we have the utilities under good control, we will move on finally, although work is already carrying on at the moment, to look at ports and airports and also at critical roads.

Chair: And bridges?

Mr Letwin: While we are at, elements of roads like bridges, yes. As we discovered with Muchelney, if you have the appearance of four roads going into a place—it lies at a crossroads—and all of them are simultaneously flooded, you have a problem. There are new techniques being developed in DfT for identifying that on a granular basis and we will move on to that work once we have finished the utilities work and the ports and airports work, so there is a succession.

Q263 Chair: But you are clear that it will be concluded by Christmas?

Mr Letwin: No, on the contrary. The utilities work for utility assets that are above the levels I talked, above a certain number of thousand people being served in each case, will have been completed and we will have worked out the temporary defences that are appropriate in order to make sure that all those that can be defended on a temporary basis and are not already defended on a permanent basis and are at risk have been defended by this Christmas. During the winter period or the autumn period when we are doing the implementation of utilities, we will have worked on ports and airports and on transport and that will be further work for next year. This review is going to go on a long time, I am afraid. There is a lot of work to do on all of these elements.

Q264 Chair: Will it be next year before you look at London's Tube network? There was a report this week in *The Observer* saying that 20% of London's Tube stations were at risk of flooding, including King's Cross, London Bridge and Waterloo. You are leaving that to next year, 57 Tube stations?

Mr Letwin: The nation has invested very heavily over the past many years in flood defence in London. London is significantly better protected than any other core city and almost any other key city; in fact, three or four times better protected. We are currently looking at the other core cities as a priority, before we get to London, to bring them up to

the level of London defence and that is another strand of the review. It will not be complete in this year. We will be working on it during the whole of next year.

Chair: Thank you. That is very helpful.

Q265 Peter Heaton-Jones: I want to talk about the funding for the lead local flood authorities. The latest figures we have been able to find are from March 2015, so just over a year ago, which show the statistic that only 39% of the LLFAs had published their flood risk strategies. I think, Mr Stewart, you recently wrote to the remaining authorities seeking their co-operation, if I can put it like that, that they should publish by the end of March 2016, so a couple of weeks ago. Did it happen?

Rory Stewart: You are quoting 31 March 2015. The actual figure at that point is that 59 had completed their strategies but 43 had already published and were at consultation stage. Currently 102 strategies are either completed or drafts in consultation in the public domain. That means that we have 80% published or complete and we have 20% still in progress. As you say, I am pushing that hard and we are in absolutely no doubt that this is a legal responsibility of the local authorities and we are pushing them hard to complete.

Q266 Peter Heaton-Jones: In which case it is slightly concerning, isn't it, that on those latest figures you have given us, one in five of the authorities have not met the deadline?

Rory Stewart: We are pushing them very hard to do that. I agree with you and that is why I have written to them.

Q267 Peter Heaton-Jones: Do you think there is further help, support and assistance that Defra can give those who have not yet managed to do it to make sure that they get it done?

Rory Stewart: There is not a deadline set by the Act. The Act imposes a legal requirement on these authorities to do it and, as I say, 80% of the authorities have done it and 20% have not yet completed it. We believe they are well advanced. They should be working hard with local Environment Agency officials. If there are individual authorities, such as your own, that require extra assistance, we can provide that from the Environment Agency in Devon.

Q268 Peter Heaton-Jones: Thank you. Can I go on slightly at a tangent, slightly but not completely? In the neighbouring county to mine there is a fairly innovative scheme, the Somerset Rivers Authority, that has been established. The reason I take an interest is that one of its focuses is Exmoor National Park, a third of which crosses the border into north Devon. The Somerset Rivers Authority kick-started, if I can put it like that, with £1.9 million of Government funding, found some additional funding locally, and for this financial year, but so far only this financial year, has been allowed to raise a small precept, which amounts to about £15 per household for an average band D household, to keep the funding going. Those who I have spoken to say this is a good initiative; they welcome it; it is working. I take a close interest because of the way Exmoor crosses the borders. The concern, however, is that there is not the long-term ability of the SRA to be able to raise the precept to keep the

funding and, therefore, the project going. Are you able to provide any clarification or hope on that?

Rory Stewart: The answer is that we are really supportive of the SRA. We are very optimistic about that. We are working with them very closely. We were in touch with them a number of times over the last month. We have been working closely with CLG colleagues and Treasury colleagues. We can't specify exactly what the mechanism is going to be but there will be a mechanism in place and we are working closely with the Somerset Rivers Authority to make sure that that happens.

Q269 Peter Heaton-Jones: Would you be in favour of similar models being proposed, set up elsewhere in other counties, Devon for instance?

Rory Stewart: Let me put a proviso on that. I think it is very important to understand that the central responsibility rests with the national Government, and what is why we are putting in £2.3 billion over six years with an additional £700 million coming in. However, if a local area wishes voluntarily to top that up through some mechanism such as a shadow precept, as Somerset wishes to do, we have always had—and this goes back to the core of the budget funding—a “yes, if” approach to that, which is to say that if somebody wishes to meet the central government things and top it up and get a better standard of protection than they would get through the normal national funding formula, we are always open to that.

Peter Heaton-Jones: That is interesting. Thank you.

Q270 Margaret Greenwood: The Government have said that they are confident that the changes to planning policy put in place by the coalition Government will successfully promote sustainable drainage systems. What evidence is there to support this assertion?

Rory Stewart: I would say that we need to keep it under review and it is something that I need to keep closely under review. Sustainable urban drainage is primarily a responsibility of CLG because most of those issues relate to surface water flooding, which does not come within Defra's remit, but I think it is something we need to look at very closely.

Q271 Margaret Greenwood: Thank you. Have the Government explored alternatives if these are not forthcoming?

Rory Stewart: We are very focused on understanding the science around this and meeting experts on this. Were we to come to the conclusion that we are not getting to grips with these problems, we are very aware of what the alternatives are and would look at.

Q272 Chair: What are those alternatives? Are there any alternatives?

Rory Stewart: To sustainable urban drainage? Yes. Effectively what you are trying to do is to prevent flooding to individual properties. All the things that we have been talking about in the slightly lengthy conversations about modelling the operations of water and the interactions between groundwater flows, river water flows and surface water flows, the interaction of the location of pipes, the replacement of pipe networks, all go along with sustainable drainage schemes in order to deal with the problem of surface water flooding.

Q273 Chair: In terms of renewing the nation's water infrastructure, isn't it easier to force developers to create sponges on housing estates rather than connect to the already ancient Victorian sewers? It is not an individual level problem, is it, because every drop of water that drains off goes and floods somebody further down the river if the sewers fail or the river bursts its banks?

Rory Stewart: I am reluctant to get dragged back into the question of modelling and the way that our models work and the way in which you try to attach cross-benefit calculations to absorbing water in a particular patch of ground and what the consequences are downstream, effectively, for flow and river level in terms of water getting into people's houses. But broadly speaking, of course, you are correct. In many cases that is a smart thing to do, but there are other cases where that is not the most cost beneficial intervention.

Q274 Chair: That is helpful. That was a key recommendation from Pitt. Just finally, Government figures show that 7% of new homes—and it is a related planning issue and I know that you are not the DCLG Minister—were built in areas of high flood risk in 2013-14. What do you think is the cost to the Government and to the Environment Agency as a result of that?

Rory Stewart: We are lucky but also unlucky that we live in a country that has a lot of rainfall and that a lot of the land in the south-east of England, where our population is rising most steeply, is in areas that can potentially be at flood risk. The way in which we deal with this is through the Environment Agency, or at least the way in which our Department, Defra, deals with this is through the Environment Agency acting as a statutory consultee and giving its advice as a statutory consultee to the local council, pointing out when it believes a particular development is going to face significant flood risk. It is then up to the local council to make the call on the basis of the Environment Agency recommendation. However, from the point of view of my Department, we would absolutely encourage the local councils to follow the EA drive and we will back local councils who follow the advice from the Environment Agency.

Q275 Chair: Sir James Bevan from the Environment Agency came. We had a very helpful session with him and he said that 99.1% of new homes had planning decisions that were in line with EA advice. We are trying to work out why there is that discrepancy. Do you think it is because when homes are built on flood plains they are adequately defended and so the EA says it is okay?

Rory Stewart: I guess the discrepancy is around what you mean by risk. With the judgment call that is being made on a particular bit of land, the Environment Agency is not going to be saying, "This is land that will never flood". There are very few bits of England where you can confidently say, "This will never flood". The Chancellor will probably say unless you are sitting on the top of Ben Nevis it is pretty difficult to be certain that somewhere will never flood. What we are trying to do—and this is where we get into these problems of modelling and probabilities and one-in-100 and one-in-500 and one-in-1,000—is strike the right balance between our need for housing and what is a reasonable investment and a reasonable risk and trying to make sure that those things are tied up. While we can't guarantee that somewhere will never flood, we can dramatically reduce the risk of that happening through smart decisions on where you build a house in the first

place and, in the case of somewhere like London that is on a flood plain, taking flood defence measures once the houses are built to prevent them from flooding.

Chair: If you do have any more insights into the discrepancy between the 7% on the high risk and the 99% following EA advice we would be grateful to receive it. Thank you very much. That concludes our session. It was very helpful. Thank you.