

In this video, we share some thoughts about how to manage the uncertainty of the future using techniques belonging to the foresight processes, and specifically scenario development.

There are various ways and methods of looking into the future in a structured manner. First of all, we can consider the difference between the 'complexity' of a system and the 'uncertainty' of how it might develop.

In the axes in the low-low sector we have 'facts'. Not a particularly complex situation and we have degree of certainty as to how things may develop.

We then move out a little bit into 'predictions' based on our experience, and at the extreme, we have 'speculations' which are, in effect, conjectures; we have no real evidence, we're just guessing. But in between we have this area called scenarios and this is something we will explore now.

So what is a scenario? It's a plausible future (plausible means likely or possible to different people) but what it really means is not unimaginable. There are plausible alternative futures, each an example of what might happen under particular assumptions. Let's explore different scenarios of how the future might unfold.

Here we are on the left today, and there we are moving to the right into the future. What might land use be like in 2040? is a very sensible question.

We can think of four different scenarios of what the land use might look like. First of all, we can think about what are the clear trends that we know about that will shape the future, i.e. where we have knowledge and experience in evidence. But we also need to think about the critical uncertainties that could lead to different futures, what might be different in the future that will affect the way the trends have developed in the past.

In scenario development we have various approaches, but we will explore the 'two by two' axes approach which is very commonly found. There are a number of steps. First of all we need to map the food system drivers. Then we need to identify the two most important and the most uncertain drivers and finally we will plot the two key drivers on two axes. We then identify the two most important and most uncertain drivers. So we've plotted our drivers on these axes and driver six and seven in this example are the two most important with the highest degree of uncertainty.

Let's take an example. The rate of climate change. We know climate change is happening, but is it going to be fast or is it going to be slow? The difference in fast or slow will have a tremendous impact on how we manage our resources and the impact of climate change.

A second example would be our approach to adapting to climate change. Will we be reactive? That is, will we respond when changes happened, or will we be proactive? That means we put into place alternative practises in advance of the change. We don't know which of those is likely to happen, but we realise that the different methods would have tremendous bearing on the outcomes.

So then we plot on our two axes, with the speed of climate change on the vertical (fast at the top, slow at the bottom). We don't know; it could be either. And on the horizontal axis we plot the approach to adapting to climate change. Reactive on the left, or proactive on the right. This leads to four quadrants, or scenarios 1, 2, 3 and 4.

We then think about developing storylines. This is the next step, which is to describe how the future world would look in each of those four scenarios. Here we have an example from the Millennium Ecosystem Assessment, where there are two considerations. First, will the world develop in a globalised way, or will it be more regionalized? And the other big unknown was the approach to ecosystem management. Again, a bit like our example earlier: will it be a reactive approach to ecosystem management or will it be proactive?

They then developed storylines for each of the four plausible worlds. So for a globalised world with a reactive ecosystem management, they developed a story called 'Global Orchestration' where people were collaborating in a reactive way to the effects of global change. Alternatively, for the same reactive approach, but in a strongly regionalized world, we had what was called an 'Order from Strength'.

In a proactive situation in a globalised world we could be very, very collaborative across the globe and developed a storyline called 'Techno Garden'. And finally, for the area where world development was regionalised for the world, which was proactive in management, they developed a storyline called 'Adaptive Mosaic'.

The titles of the storylines of the quadrants was very indicative of the flavour and the feel of the future world in 2050, so this is a very important aspect to get the feeling of the world in the future, established in the storyline.

So, what are different ways to look across scenarios to help with developing decisions for today? First, we can spell out and question the assumptions made in each scenario. The assumptions are critical. The assumption is it fast or is it slow?

We look for future developments that are the same in all scenarios. That would be very interesting irrespective of the future world. What might be happening in a certain way.

We can look for uncertain future developments which differ across the scenarios. How will the future conditions in in in the different storylines affect the development of an area of interest?

We can identify trade-offs described in the scenarios very important to think about how best to navigate the future to minimise negative trade-offs and capitalise on synergies.

And finally, we can identify policy options that would make sense in all scenarios. That is, irrespective of the nature of the future, even though none of those scenarios may actually happen, would a given policy option appear to be effective into the future, and not dependent on particular set of circumstances that may or may not happen.

So scenario analysis is a very valuable tool for helping to navigate the uncertainty of the future and provides some very good stakeholder engagement opportunities to collectively co-develop these plausible futures.