

In this short introductory video, we share a few ideas about the concepts and dynamics for food systems.

The first question we have to ask is, what do we actually want from food systems? Well, obviously the food that we need to eat, which is often broken down into these three major components for food utilisation, food access, food availability. And stability is an important component, as is sustainability and our agency.

But we want other things from the food system in addition to food. For instance, we want rural livelihoods. We want employment across the piece. We want ecosystem services, we want our health, and we might be interested in animal welfare. There's a long list of societal interests in food.

Let's start by unpacking the food system 'activities'. First of all, on the left we see the producing, i.e. the farming or the fishing or hunting that lead to the need to process that material into material that we can then eat. And that then goes through a process of wholesaling, retailing or exchange and ultimately to us as consumers. There is trade, transport, logistics and waste management across the whole system. These are all food system activities.

Then let's think about who's doing these activities, what we call the food system 'actors' or the people involved in a wide range of different enterprises and opportunities. We of course are all on this diagram because we are all consumers, but for many other people, their other principal other motive is to have a livelihood. Hence, we all have a range of different motives: to satisfy our hunger and our need, but also our income and well-being.

When the material is transformed from the primary production through to the food we eat, there is the opportunity to change that material. We can, for instance, remove fibre. We can add vitamin A. We effectively turn it from the biomass that comes from the farm into the food we want on our plates and in so doing, there are massive livelihoods for value addition along the chain. Every person who is engaged in this is getting some livelihood value and the price of the material increases as you go from left to right.

All of these processes are driven by what we call 'drivers', the social system, the economic, the political systems, what technologies are available, and of course, the climate and other biophysical aspects. These are the drivers of the system.

So we recognise that there are multiple 'outcomes'. At the top of the diagram we have the activities, and at the bottom of the diagram we have a range of the outcomes we get from those activities. Food security, of course, in the middle, but then don't forget the socioeconomic outcomes. And of course the environmental outcomes.

The issue is a balancing act, balancing 'what we want' from the system with the 'what we do' (i.e. the activities) and hence 'what we get' (i.e. the outcomes). There are trade-offs to be aware of. We need to be cautious about focusing too much on one of these outcomes boxes at the bottom and forgetting the others. But there are synergies to exploit as well. If we're judicious in our activities, we can benefit across the piece.

So the next thing to do is to recognise not only the activities and the outcomes and the drivers, but the 'feedbacks'. In the middle of the diagram, we have the food system activities with its supporting services and the institutional environment. On the right we have the food system outcomes we've already looked at. On the left, we have the drivers we've already mentioned. The important point of the diagram is the feedback loop. Because it is a dynamic system, as the

outcomes materialise from the system they feedback to actually affect the context within which the system is operating, i.e. they change the drivers.

Why is it important to have a food system approach? Well, first of all, we need to agree what we want from food systems. We have to recognise there are a wide range of outcomes and that different communities and different groups are interested in different outcomes. We also need to understand the food system activities, who is doing what? What are their causes for action and how we can think about adapting those activities? We need to then recognise the trade-offs and the synergies that are possible in the outcomes by adapting our activities in a certain way. And finally, we need to recognise the drivers and particularly the feedback loops, because we are dealing with a dynamic system.