University of Basel

One Health: Connecting Humans, Animals and the Environment
Video Transcript

An Eco Health example

[Jakob Zinsstag]: For human and animal health, chemical contamination and spillage is very important, especially if it touches river systems. In the '60s and '70s of the last century, here in the Valais, there was mercury spillage from the chemical industry. And this is still being cleaned up today. In 1986, there was a major disaster when a chemical storage plant in Basel burned and the water to stop the fire went into the river Rhine and killed all the fish down to Rotterdam. Fortunately, this did not affect human health very much and the fish population recovered in the decades that followed.

But it showed how important it is that we don't only think about human and animal health as such but that we consider the environmental services and ecosystems as part of human and animal health efforts that we need to undertake. So you can certainly also remember that Basel disaster.

[Mirko Winkler]: Yes, I do indeed. I was a child at that time. And I remember very much when it happened and the Rhine River was actually red and it was really a shocking event. But it was only very recently when I realised how much context matters when it comes to environmental disasters. So the example I'm having in mind was actually in British Columbia in Canada, where recently, there was a huge mining disaster linked to a mining project. And large mining projects, they have tailings dams and they have huge quantities of waste water. And so there, it was a tailings dam that actually breached and there was a huge amount of waste water released into the environment. And before it was a small creek. Two, three metres. But after the disaster, it looked actually quite similar to here. Here, it's a beautiful environment, of course, fully naturally. But there, it looked similar but it was a disaster and a lot of destruction.

And so in response to this very unfortunate disaster, they implemented a large environmental monitoring campaign. And they measured many parameters and they saw that actually just a couple of months later, for example, water quality was exactly the same, more or less as it was before. And so there was very little or even no concern anymore for human and animal health. But this was not entirely true. Because in that area, there lived a lot of aboriginal people. And they depend largely on locally fished salmon. And they continued to raise concern that this mining disaster has impacted their livelihoods and health. And so their health authority, they commissioned an investigation in which we were heavily involved.

And what we found is that because of this disaster, the local aboriginal people, they did not trust anymore the fish quality. They had concerns about chemical contamination. So they reduced fishing activities or even stopped completely. And so because of this change in their practise, it impacted heavily on mental health, spiritual health, but also physical fitness and nutritional practises. And so there was a very direct link to health and there were many adverse impacts. So the disaster has impacted directly on animal health, the salmon, but also on human health. And so there are two important lessons, I think, to be learned there.

One is that the more people depend on ecosystem goods and services, the more vulnerable they are to environmental disasters. And the second lesson is that it's not sufficient to only look at environmental parameters when we talk about ecosystem health. There is much more. There are social dimensions, spiritual dimensions, and of course also health that should be considered very much.

[Jakob Zinsstag]: Yeah, that example nicely shows that we should extend the current health and environmental impact assessment methods to broader considerations of human and animal health and environmental impact assessments.

[Mirko Winkler]: Yes, that sounds like a very nice proposal. Because it would address one of the weaknesses we see today in impact assessment practise. Today, very often, impact assessment is driven by social and environmental impact assessment specialists with little involvement of other disciplines. And that's not ideal. And so I think if you want to advance the field in the future, we should include a systematic assessment of which disciplines should actually be involved in impact assessment depending on the given case. And what we should also then promote more actively is that those different disciplines, they work together in a very integrative way because there is a lot of overlap. And by doing integrated impact assessments, we will automatically come up with more holistic solutions. And I think that's what's needed, especially when we talk about very complex contexts, such as the example I just mentioned.

[Jakob Zinsstag]: This certainly involves that we engage with communities and authorities, both at the national and local level that all the concerned actors are really able to express their perceptions and views how a problem could be solved. This would be transdisciplinary methods that engage with all stakeholders for a societally acceptable solution of these kind of problems.

[Mirko Winkler]: Very much. And I think this is something that impact assessment really has to offer is stakeholder involvement that should start at the very beginning of any impact assessment process. And as you just said, it should really cover the full range of stakeholders from local people to authorities. Because any solution is only good if it's accepted by local people. But also, it needs to be done often in an intersectoral cooperation. Because often, solutions are the responsibility of different sectors. And this is why they need to work together in order to efficiently implement mitigation measures.

[Jakob Zinsstag]: And we would combine the technical parts of the health and environmental impact assessment with the social dimension of the transdisciplinary research where all the involved actors become members of the research teams because they contribute their own local knowledge to the problem solving.

[Mirko Winkler]: Yeah. For bringing all together, we need frameworks. And I very much like the proposal you did before about this One Health environmental and social impact assessment. It's these kind of frameworks that are needed for advancing the field of impact assessment and going towards integrated assessments and transdisciplinary work.