



Photo: Olga Yanira Juagibioy

“Agroecology is an epistemological revolution”

Victor M. Toledo is a Mexican ethnoecologist and social activist at the National Autonomous University of Mexico. His work focuses primarily on the study of agroecological and knowledge systems. In this interview, Victor M. Toledo explains why co-creation of knowledge is an integral part of agroecology and discusses the changes that are needed for this form of agriculture to gain ground in the global arena. He argues that agroecology is in itself a major shift in our relationship with knowledge.

Interview: Diana Quiroz

What is the role of knowledge in agroecology?

To answer this question, I would like to recall Alexander Wezel's definition of agroecology. Our French colleague defined it, first, as a science. This is obvious, since agroecology generates scientific knowledge in the strictest sense. However, agroecology, like many other hybrid disciplines (for example, political ecology, environmental history, and ecological economics) is an epistemological and methodological leap that generates new ways of doing science. That is, agroecology is already a new scientific paradigm. It is a politically and socially committed science.

Second, agroecology is also a practice. That is, it involves practical and technological innovation. But this is not technological innovation that arises in research centres, and then is passed on to farmers. No. Here, technological innovation results from both traditional peasant local knowledge and the knowledge of agroecologists, who are usually educated in the academic tradition.

Finally, agroecology is also a social movement. This is seen, for example, in the Latin American agroecology congresses, which are basically encounters between academia, producers, farmers' organisations, and social movements.

What is the role of the (agroecological) farmer in spaces for social innovation?

I would like to place my answer to this question in the context of the incipient global environmental, social, and economic crisis, and how some Latin American experiences are examples of possible solutions to this crisis.

First, there is the example of Cuba. After the collapse of the Soviet Union, Cuba, who exchanged sugar for oil, was suddenly confronted with a lack of both energy and a market for its most important agricultural product. The country went through very difficult times. Being forced into self-reliance, people organised themselves in neighbourhoods, city quarters, and cities, and found a way out of the food crisis through agroecology. The conversion to agroecology was so successful that the government had no alternative but to support it. Similarly, the most important farmer movements of Brazil (among them, the Landless Farmers' Movement) are successfully addressing a serious social crisis (land grabbing) also by adopting agroecology as their main paradigm.

Another example that illustrates the role of farmers comes from Mexico and Central America, where farmers use the 'campesino a campesino' (farmer to farmer) methodology. This methodology involves farmers sharing their knowledge to help each other use agroecological principles in local conditions. Also

in Mexico, coffee-producing indigenous communities carry millenary knowledge and, I dare say, are the pioneers of organic coffee production worldwide.

Because of the interest that this generated among agroecological scientists, Mexican agroecology is recognised to be firmly rooted in the traditions of indigenous Mesoamerican cultures. Their experience has been one of the catalysts of the agroecological movement in the country (see page 26-28).

What do agroecological scientists do to contribute to co-creation of knowledge?

Overall, one fundamental principle of agroecology is the recognition of the value of traditional agriculture. Through valuing and learning from ancestral wisdom, innovation emerges. In agroecology we act through what we call a 'dialogue of knowledges'. This has to do with the decolonisation of the mind. Agroecological scientists do not think they know it all (as is the case in orthodox science). They are not like conventional agronomists, who approach peasants with an attitude of supremacy and arrogance. Agroecologists do not teach farmers or producers how things are done. They engage in an intercultural dialogue that accepts that science is not the only way of looking at, transforming, and emancipating the world.

Wixarrica farmer blesses a recently harvested maize field in West-Central Mexico. Photo: Raúl Hernández Morales





Indigenous communities are at the forefront of agroecological coffee production.

Photo: Enrique Carrasco

In Latin America, for example, agroecological scientists are being influenced by what is called the ‘epistemology of the South’. This is a process of decolonisation from the cultural bias we have inherited from European thought. This is seen in the process of the decolonisation of the mind, where the region’s most

“Generating innovation through a ‘dialogue of knowledges’ has to do with the decolonisation of the mind”

critical thinkers question paradigms such as ‘progress’, ‘development’, and ‘competition’. These paradigms are precisely those that support the agroindustrial food production system.

Can you give us an example of an agroecological system created from this ‘dialogue of knowledges’?

Take the example of coffee, which is arguably the world’s most important agricultural product. Under conventional thinking, market demand drives the modernisation of coffee production systems, that is, growing it as a monoculture and at a large scale, using machinery, pesticides, and agrochemicals. Coffee produced agroecologically, on the other hand, is grown by small farmers. In Mexico particularly, indigenous communities grow non-conventional coffee under shade in highly diversified agroforestry systems. There, a cash crop was integrated in the traditional management of truly anthropogenic forests. In other

words, coffee, a relatively new product, was introduced into systems that already existed since pre-Hispanic times.

It is important to stress that agroecology does not try to avoid modernity; rather, it posits an alternative modernity. Not a modernity that destroys tradition, but a modernity that departs from tradition; modernity that respects traditional wisdoms and cultures and that seeks the encounter of knowledge and experiences. Nor can we afford the romantic thought of ‘all we have to do is rescue tradition’. Tradition also has its own failures and limitations. This example of agroecological coffee production is a beautiful case of how the combination of modernity and tradition can generate very advanced systems of food production.

What is needed for this ‘dialogue of knowledges’ to gain more recognition at universities and research institutes?

First, we must understand that when a dilemma involves two fundamental ways of producing food, a conflict will, of course, arise. In science, agroecology challenges a whole system of research and dissemination of knowledge, thereby generating a battle that takes place at universities and technology and research centres.

However, in my experience of the last twenty-five years, in Latin America there are increasingly more programmes where agroecology is either taught or researched. The force that drives this process is proof

Intercropping coffee and tomatoes.

Photo: Wikimedia Commons





Victor M. Toledo. Photo: Luis Ponciano

that this is not only an epistemological revolution, but also a cognitive and cultural one.

An example of this is that of the Andean region, particularly Bolivia, where an agroecology PhD programme was set up a few years ago by former graduates of the University of Cordoba's (Spain) PhD programme on agroecology and sustainable development. The majority of these new Bolivian graduates are either farmers of Aymara origin or the children of these farmers. This programme was not only the first one of its kind in Latin America, but it is one reputed for its high academic level. In the meantime, agroecology programmes have also started in Honduras, Colombia, and Mexico. I think that agroecology should become as widespread in the world as it has become in Latin America.

Moreover, I should also highlight another especially important counterforce (one which I belong to) that runs in parallel to the agroecological science-practice-movement: ethnoecology. By focusing on traditional knowledge, ethnoecology is expanding the paradigm of mainstream scientific knowledge to one that includes traditional knowledge. This is a force that increases at an impressive rate, especially among young researchers who promote the integration of different types of knowledge for the future of humanity.

What do you think is needed for this paradigm shift to occur at a global scale?

In the coming years we will be entering a period where we will need to define this new paradigm. This will imply that we need to discuss the role of science and research in terms of culture, ethics, and even politics. What we need is a science that responds to a world in crisis, a science that effectively addresses a very significant ecological and social emergency.

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We are currently experiencing the breakdown of the great dogmas, of the great myths of modernity, and although we are moving towards replacing them in our discussions, much remains to be done in practice. We must be honest and recognise that although traditional knowledge has gained importance, conventional science still treats the producers of this knowledge as mere objects of study. Through the ‘dialogue of knowledges’, the researcher becomes involved in the defence of knowledge and starts to accept the need for a new scientific paradigm.

This brings me back to the first question in this interview. The role that knowledge plays in agroecology as a science-movement-practice provides an example of what a paradigm shift could look like. Moreover, the different agroecological experiences in Latin America provide examples of how to respond to this crisis. From this perspective, it can be said that agroecology is, in itself, an epistemological revolution.

To read more about agroecology in Latin America visit: <https://www.socla.co/publicaciones/> and LEISA Revista de agroecologia, www.leisa-al.org