

*IPCC: Koronivia Joint Work on Agriculture*

*Intersessional workshop on:*

*b) Strategies and modalities to scale up implementation of best practices, innovations and technologies that increase resilience and sustainable production in agricultural systems according to national circumstances*

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## **I. INTRODUCTION**

Thank you for this kind invitation to discuss strategies and modalities that increase resilience and sustainable production in agricultural systems according to national circumstances.

As the UN Special Rapporteur on the Right to Food, it is my job to be the eyes and ears for the UN system and address questions of hunger, famine, and malnutrition from a human rights perspective.

I have a very broad mandate from the UN Human Rights Council, so this includes addressing issues regarding food systems and governance.

As a UN Special Rapporteur, I am an independent expert that regularly reports to the Human Rights Council and General Assembly. So my work draws from my own research. But also from my regular conversations with governments, international organizations, other experts, businesses, and civil society.

What I will do today is slightly reframe the issue – I think the problems we are facing require us to not only focus on agricultural production but on food systems.

I will then explain why the right to food and human rights more broadly provide a key way to think about systemic solutions. Here I will explain what is the right to food, and also focus on and agroecology.

I will conclude with what kind of research I think is necessary for the future.

## II. FRAMING THE PROBLEM

The biggest threat to our food systems is drastic reduction of biodiversity. Around 1 million animal and plant species are now threatened with extinction, many within decades.

Food systems also emit approximately one third of the world's greenhouse gases.

The main culprit behind biodiversity loss, soil degradation, and greenhouse gas emissions has been industrial intensive agriculture. It relies on high-input, high-output agricultural systems, dominated by large-scale specialized farms.

Ever since governments started adopting the Green Revolution in the 1950s, the world's food systems have become increasingly designed along industrial models.

The idea being that if people are able to purchase industrial inputs, then they can produce a large amount of food.

Productivity was not measured in terms of human and environmental health, but exclusively in terms of commodity output and economic growth.

The productivity paradigm that has accompanied the Green Revolution has created food systems that disrupted carbon, nitrogen, and phosphorous cycles.

This is because it requires farmers to depend on fossil fuel-based machines and chemical inputs like synthetic fertilizers and pesticides displacing long-standing regenerative and integrated farming practices.

Moreover, more and more power in food systems was concentrated into the hands of a few transnational corporations. Food systems have been designed to serve profit margins over people's rights.

The fast-growing consensus is that we can no longer rely on paradigms that prioritize economic growth and standard economic indicators.

Despite a 300 per cent increase in global food production since the mid-1960s, malnutrition is a leading factor contributing to reduced life expectancy. Hunger rates and famine are still on the rise.

Understanding food as part of a system may help better understand how things are going wrong.

Food systems analysis was developed to examine how producing, processing, transporting, and consuming food is inter-connected and central to all aspects of life.

There are some proposals for change that are often described as sustainable intensification. In many ways, sustainable intensification tries to better align with ecological goals such as soil health and increased biodiversity.

The recent Food Systems Summit that was convened by the UN Secretary-General is an example of what proposals look like under sustainable intensification frameworks.

Nevertheless, sustainable intensification methods are more a reform of industrial agriculture than a transformation of food systems.

Both sustainable intensification and industrial intensification rely on capital-intensive processes and technologies. This in effect reflects the status quo of the current political economy of world food systems.

Both sustainable intensification and industrial intensification frame the problem primarily in terms of output and production.

Both rely on a theory of knowledge in which scientists and experts deliver knowledge to food producers.

## II. RIGHT TO FOOD AND AGROECOLOGY

### *A. Human Rights*

Only recently have researchers started to account for people's ability to change food systems in a way that enables individual and collective flourishing.

Agency captures the dynamism of food systems and complexity of how food is made, shared, and eaten.

Agency is also central to a human rights-based approach, since human rights starts with the power that people already have.

This includes people's right to organize themselves in order to fully participate in the making of their own food system.

At the most specific level, everyone has the right to food that is always adequate, available, and accessible.

But more generally, human rights are about relationships.

Human rights focus on the relationship between governments and people.

In the end, a government is only as strong as its people.

The other relationship that is important is people's relationship to the environment.

People are only as strong as the biosphere.

One purpose of human rights is to ensure that every sector of the economy works to serve and empower those relationships:

The Government and the People  
The People and the Environment

The key to human rights, and the right to food specifically, is that people are at the center of it all – not profits or geopolitics.

Markets should serve the people.

For too long, it has been the other way around, with people being forced to serve markets and transnational corporations.

Or governments focusing on enhancing their relationships to corporations.

People must have as much control as possible over their own food system, their own destiny.

In turn, governments are obliged to create the conditions for all people to be able to access good, nutritious affordable food with dignity, now and in the future.

### *B. Agroecology*

Agroecology has proven to quickly lead to the tangible realization of the right to food, ensuring that communities and ecosystems flourish.

Agroecology starts with the question of power dynamics. It frames the problem as an issue relating to access to knowledge and resources.

From the perspective of agroecology and human rights, problems of food insecurity and malnutrition are problems created by whomever has control over the food system.

So it includes within it a call to hold people, businesses, and governments accountable.



Agroecology is a scientific discipline that includes experimental knowledge with a focus on the ecology of agricultural environments.

Its primary goal is to mimic ecological processes and biological interactions as much as possible.

With this ecological knowledge, agroecology provides a way to design production methods based on assembling crops, animals, trees, soils and other factors in schemes that are very context specific.

It allows farms to generate their own soil fertility, crop protection, and productivity.

As an agricultural practice, agroecology is labour intensive.

It encompasses a range of production techniques derived from local experience and expertise that draws on immediately available resources.

Thus, it also heavily relies on experiential knowledge, more commonly described as traditional knowledge.

As a social movement, producer-based agroecology acts as an important driver for strengthening social cohesion. It does this through the gradual reduction in social inequalities. It also does this by promoting local governance and sovereignty, and empowering of local communities.

Some of you may have heard of food sovereignty movements.

Food sovereignty movements and governments adopting food sovereignty laws and policies have been key to popularizing agroecology.

While sustainable intensive agriculture recognizes the importance of *responding* to the social and ecological dimensions of food production, for agroecology, it is a *precondition* that food producers enjoy secure access to biodiverse land and natural resources.

I want to add that some agroecological food systems are already models for others.

Indigenous peoples make up less than 6 per cent of the world's population. Yet they are stewards of 80 per cent of the world's biodiversity on land.

We already know that ecosystems and food systems managed by Indigenous peoples are declining less rapidly than elsewhere.

Indigenous peoples live on land that is among the most vulnerable to climate change and environmental degradation. Therefore, Indigenous peoples should be taking the lead on deciding what should be done on a global scale.

Now to turn to a common question as to whether agroecology can feed the world –

New research suggests that if we calculate productivity in terms of per hectare and not for a single crop, and in terms of energy input versus output, agroecology is often more productive than industrial intensive techniques.

Agroecology is also proving to be more resilient to climate change.

In sum, I think agroecology is the way forward to increase biodiversity and restore carbon, nitrogen, and phosphorous cycles. It is holistic in its approach. Agroecology does not separate the question of what is to be done from questions of how it should be done and who should hold the power to do it.

### III. THE WAY FORWARD

As is widely recognized, small-scale food producers play an essential role in ensuring food security and nutrition today.

Small-scale food producers produce approximately 70 per cent of the world's food and yet they face hunger, malnutrition and socio-economic insecurity.

Small-scale food producers do not only include farmers but also fishers, pastoralists, and workers.

A recent study by a research consortium called Ceres2030 recently came out with startling results.

After reviewing more than 100,000 articles in agricultural research, using a diverse set of criteria, the Ceres2030 team identified all articles capable of contributing to what is needed to tackle hunger.

What troubled the Ceres2030 team and surprised the scientific research community at large was that only around 2 per cent of published agricultural research provides original and high-quality data that can offer solutions for small-scale producers.

From that 2 per cent, we can extrapolate what type of research is needed.

Smallholders are more likely to adopt new approaches when supported by extension services; localized education matters.

They also found that small producers' incomes increase when they belong to cooperatives, self-help groups, and other autonomous organizations that share networks and resources. These networks are built on experiential/traditional knowledge that are part of what others describe as solidarity economics.

Moreover, they found that informal markets work; producers prosper when they can sell their produce informally to small- and medium-sized firms. Those are markets based on trust, which some have described as territorial markets.

That type of research, geared towards smallholders' localized education, solidarity economics, territorial markets, and experiential/traditional knowledge, is central to agroecology.

Public investment in agroecological approaches has been severely limited, estimated at between 1 and 1.5 per cent of total agricultural and aid budgets.

Moreover, the majority of teaching and research institutions and extension services have been devoted to isolated industrial solutions to problems. Although there is now a growing number of education programmes that take more systemic and holistic approaches, and focus on experiential learning.

Some donors such as France, Germany, Switzerland, FAO and IFAD have explicitly recognized agroecology as a key solution for building sustainable food systems.

Some countries such as Bolivia, Kenya, Mexico and Senegal continue to devote more resources to agroecological approaches at a national scale. There are also ongoing specific international plans to that enhance investment in agroecology through the FAO and UN Committee on World Food Security (CFS).

And in my own reports, I have focused on how agroecology can help us rethink how we create and support markets so that commerce can serve people and planet.

In conclusion, agroecology is gaining popular support around the world. This is because equity is at the heart of agroecology.

Just like every ecosystem is unique, every agroecological system would be unique. But we could scale up agroecology if we support these practices everywhere on a local scale and make sure the different ecosystems are supporting each other on a global scale.

Agroecology takes care of the people who produce food. If we take care of our food producers – Indigenous peoples and our farmers, fishers, pastoralists, and workers – we are in effect supporting the people who take care of our ecosystems and us.