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# F@rmLetter

Growing Ideas



Do You Want to Tackle Climate Change?  
**Roll Up Your Sleeves and  
Put Your Fingers in the Soil!**

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*The views and opinions expressed by the authors do not necessarily reflect the position of the World Farmers' Organisation*

# Do You Want to Tackle Climate Change in Times of Pandemic? Roll Up Your Sleeves and Put Your Fingers in the Soil!

by Theo de Jager, President, World Farmers' Organisation

Once Shakespeare said, *"There is a tide in the affairs of men, which, taken at the flood, leads on to fortune; omitted, all the voyage of their life is bound in shallows and miseries"*. For almost one year, COVID-19 has struck the world like that flood and left nothing unchanged. It has disrupted the way we do business, the way we think about our jobs and families, the way we generate income, the way we think about health and, above all, our vision of food.

Before COVID-19 outbreak invested us, "protecting the Planet while ensuring Food Security" was priority number one in the international community. Now that the pandemic is here, it is in our duties to persist. It is key to leverage this moment to build back better and incorporate a reinvigorated approach to both mitigation and adaptation, without losing sight of the complex multiple challenges we must face, from ensuring food security for a growing global population to enhancing biodiversity.

In fact, we have realized that climate change is one fundamental piece of a very complex balance to be found in the framework of Sustainable Food Systems. Global challenges, like climate change and COVID-19, show that a radical shift towards a systemic approach is necessary if we want to be successful. And the key ingredient is a coordinated, mutually beneficial and trustworthy engagement of the different stakeholders in different sectors of the whole food value chain at multiple levels.

It is essential that as farmers, we take our commitment, our needs, expectations and answers into the global platforms where the difficult questions around sustainability are being asked because no one knows what can be done better than ourselves. No one knows what is feasible and sustainable on the farm, better than we do. And there is no better institution to hold us accountable than ourselves. It is time that the farmers in Oceania learn from the farmers in North America and those in India, and Asia learn from those in Latin America and Africans learn from the colleagues in Europe and vice versa. And that we come up with far made solutions to all these difficult questions.



Theo de Jager is the President of the World Farmers' Organisation (WFO) since June 2017 and former President of the Southern African Confederation of Agricultural Unions (SACAU, 2013-2018) and the Pan African Farmers Union (PAFO, 2014-2017).

He has farmed in South Africa since 1997 (in the South African Lowveld region) with timber and subtropical fruits (avocados, mangoes and macadamia nuts).

**// No one knows what is feasible and sustainable on the farm, better than we do. And there is no better institution to hold us accountable than ourselves.**



That is why in the World Farmers' Organisation, in 2018 we have launched [The Climakers](#), a global farmers driven initiative, which takes us into every corner of the globe. We get farmers together, and we ask them, "What do you think you can do on your farm to trade a little lighter across your pastures and to make a smaller footprint across your fields?". The Climakers are a multistakeholder alliance where farmers join hands with all other actors in the value chain, research, civil society, in order to promote better national commitments (the Nationally Determined Contributions, NDCs) and ensure long-term sustainability on a healthier planet.

Thinking about climate change in the perspective of Food Systems, there is one entry point to all the challenges we are meant to face that is particularly dear to every farmer of the world, being small or big, located in the global North or South: soil health. Healthy soils are the real capital of our farms and also the first asset of sustainable and climate-resilient food systems. Whether you farm livestock or vegetables, fruits or crops, at the bottom of that all it is healthy soils. We, as farmers, we are the ones who eke out a living with our fingers in the soil.

As a major carbon sink, soil health is an entry point to multiple benefits, from addressing climate change mitigation through sequestration to strengthening resilience, enhancing biodiversity, improving food security and nutrition, as well as improving the livelihood of farmers and rural communities.

We, the farmers, dream of the possibility of having a global program to capture enough carbon and put it back into the soils to take our atmosphere back to the condition it was before the Industrial revolution, proving to the world that agriculture is the solution to our challenges and that investing in agriculture is key to have a healthy planet for healthy people.

Farmers stand ready to do their part!

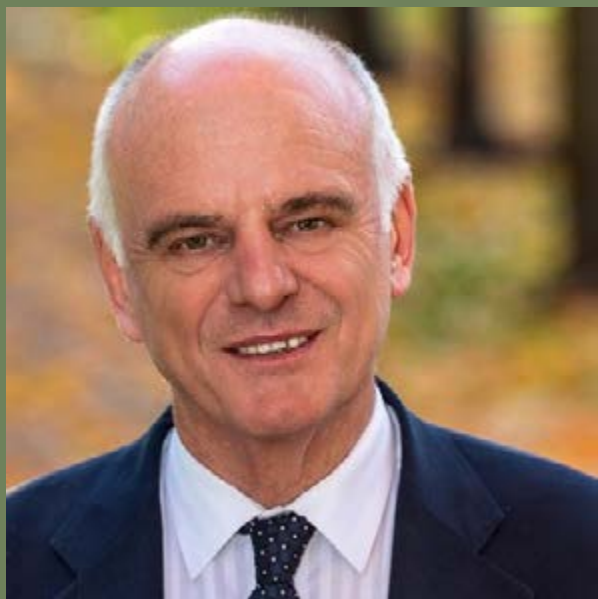
**Dream with us, roll up your sleeves and put your fingers in the soil.**



# WFO Talks to Dr David Nabarro

*Q&A Session with Dr David Nabarro,  
Special Envoy of WHO Director General on  
COVID-19, Co-Director of Institute  
of Global Health Innovation and Strategic  
Director of 4SD - Skills, Systems &  
Synergies for Sustainable Development*





Dr David Nabarro is the Co-Director of the Institute of Global Health Innovation at Imperial College London and supports systems leadership for sustainable development through his Switzerland based social enterprise 4SD. From January 2020, David has worked as Special Envoy of WHO Director General on COVID-19.

David secured his medical qualification in 1974, spent five years working as a community-based physician (mainly in South Asia) and since then has had assignments in over 50 countries. He has worked in communities and hospitals, governments, civil society, universities, and United Nations programs.

David was head of Health and Population and director for Human Development in the UK Government Department for International Development in the 1990s. From 1999 to 2017 he held leadership roles in the UN system: he worked on disease outbreaks and health issues, food insecurity and nutrition, climate change and sustainable development. In October 2018, David received the World Food Prize together with Lawrence Haddad for their leadership in raising the profile and building coalitions for action for better nutrition across the Sustainable Development Goals.

### **In the achievement of global nutrition security, how is COVID-19 affecting this process?**

*The continuing spread of the virus in different societies threatens the lives and well-being of many millions of people throughout the world. Efforts to contain the virus impact on the livelihoods of millions more who are required to restrict their movements. This leads to major livelihood challenges especially for those on low incomes or in the informal economy because their ability to earn incomes is reduced and the result of restrictions imposed earlier this year has been a rapid increase in the numbers of people in our world with income poverty. Hundreds of millions of people have lost income and are struggling to make ends meet. Because the purchasing power of poor people has reduced, their ability to purchase nutritious food for themselves and their families has been restricted. Men, women and children are missing out on nutrition as a result of COVID-19. This has had implications for children, reducing their ability to grow well and avoid malnutrition especially in the early years of life.*

*Local authorities and national governments appreciate the need to ensure that cash and nutritious food are available to poorer people, where they live. Many governments have expanded the income support provided for poorer people and increased children's access to nutritious food during this period. The need to increase access to income support has put pressure on local and national budgets. It has led countries to seek additional support from international sources including the International Monetary Fund, the World Bank and development partners.*

*This experience suggests that strategies to contain COVID-19 must prioritize the nutrition of children in every nation to avoid a massive increase in the numbers of children facing immediate risks and long-term harm as a result of poor nutrition in early childhood. Those who are malnourished are 5 times more likely to die from diarrhoea and other diseases, perform less well in school when adolescent, and more likely to be poor, and susceptible to non-communicable diseases (including type 2 diabetes), when adult.*

As COVID continues to threaten communities everywhere, leaders are being called on to react to people's needs with resolute and rapid responses. They are asked to anticipate the longer-term nutritional, educational and health consequences of the current situation – for children and women everywhere – in ways that are fully accountable to them. No-one should be left behind!

### **What are the appropriate policy responses in relation to the links between COVID19 and food systems?**

Food systems will be particularly affected by COVID in the coming years and will need support to reduce the impact. Here are some key elements of policy responses:

**Focus on the poor:** A 10% GDP contraction means an extra 180 million people could be plunged into poverty—85% of them living in Africa south of the Sahara and South Asia. As many as 150 million will be hungry. Governments need to do all they can to ensure food and income support for the vulnerable.

**Prevent hunger:** Deliver school feeding outside of school. Distribute food without congregation at delivery points. Set up cash transfers for those below the poverty line. Provide relief to those who have lost their income. Prioritize the needs of those in essential roles (including in health and food systems). Focus on sufficient nutritious food for all and prioritize women and children.

**Promote nutrition:** Focus on pregnant women and children under five, promote breastfeeding, provide vitamin and mineral supplements, sustain mother and child health care, treat malnutrition and diarrhoea, leave no-one behind.

**Support farmers and food system workers:** Reach smallholder farmers, help them access essential inputs (e.g. seeds and fertilizers), offer bridging credit and working capital, ensure food system workers are protected, paid and can access food, link bigger food businesses to smaller ones to offer support, improve farmer and small food business access to intervention funds.

**Invest in civil society:** Call on civil society to ensure those most in need receive vital assistance, ensure they can access finance from national governments and the international community.

**Prioritize food supply:** Check prices and availability of staple and non-staple foods; monitor perishables like vegetables, fruits, pulses, dairy, eggs, fish and meat (these nutrient-rich foods are scarce due to reduced demand and an inability to move them around); ensure food can get from farm to market and that storage facilities are maintained to avoid food loss; get emergency finance to small and medium enterprises to prevent them from collapse (they are the backbone of food systems everywhere).





**With a view to transforming the Food Systems towards global sustainability, including respecting the planet, achieving social security and reaching decent levels of economic viability for all, how can we overcome the challenges of COVID-19 to achieve this overall objective?**

*As communities, territories and nations explore how to adapt their food systems to the full spectrum of the Sustainable Development Goals, they focus on the decisions that will contribute to sustainable food systems. The vision for the future is one where all involved in food systems have resilient livelihoods that are compatible with the changing climate. There are many components to resilience: they are likely to include short supply chains that link food producers directly to consumers while offering affordable access to safe, nutritious and healthy foods. This will require both creativity and audacity, drawing on indigenous knowledge and the experience of practitioners, ensuring that innovations bring tangible benefits to those who have the greatest needs.*

*Governments are strengthening their systems for support to food systems stakeholders whose livelihoods are threatened. Farmer organizations, labour unions and local civil society groups play vital roles in supporting those most in need through integrated local responses. Many governments face constant difficulties with mobilizing the funds needed to scale up support in line with need.*

*There are dense interconnections between safeguarding people's health and sustaining functioning food systems. Defences against the COVID-19 virus require that populations are engaged, that scientific evidence is heeded and that public health systems work effectively in all local communities. As all communities come to terms with the threats posed by the virus, systems that ensure people's access to food and nutrition must be resilient enough to respond to changing needs, especially when their income drops because movements are limited in the effort to contain the virus. Action taken now has important implications for the longer-term viability of farmer livelihoods, people's food security and food systems everywhere.*



**Farmers and rural populations are facing the climate change challenge, which they have been mitigating and adapting to for years. How to encourage climate action?**

*Climate action depends on concerted efforts by national governments: governments will take action nationally and make international commitments to do so if they have substantial support from their electorates. This means that for humanity to find pathways through the current global challenges, there is an absolute need to build a strong coalition of domestic support for climate action. That means nurturing local solidarity with coordinated, networked action.*

**According to your views, what would be the role of multi-stakeholder partnerships at local, national and international levels to cope with the new normal created by COVID-19?**

*The reality is that the virus is a common foe: it is here to stay, and we all have roles to play in keeping it at bay.*

*We need every national leader working together on it and treating it with the attention it deserves. At a local level, this means, integrating local authorities, health services, residential care, businesses, religious groups, community organizations and local leaders so that they are ready to respond together as spikes in case numbers start to appear.*

*At a national level, this means ensuring that national authorities support the efforts of these integrated local groups.*

*Internationally this means strong cooperation and unified action by nations is essential – on everything from travel protocols to the development of new testing, treatment and preventive options like vaccines. The WHO, which is a product of the cooperation between nations, is a vital source of guidance and support.*

*The COVID-19 crisis is not just a public health crisis; it's also an economic, social and political crisis. It is a "complex systems" problem that requires changes in behaviours and incentives and the relationships between different groups and organizations. Effective responses, therefore, need to build on collaboration across different sectors, industries and professionals and between international, national and local levels — an ambition that has often proved difficult to put into practice.*



**// #SystemsThinking offers a way of seeing a reality that recognises the interrelatedness of things. This is crucial to deliver on the ambitious 2030 Agenda.**





*Collective action in this regard might be in the form of coordination (e.g. among businesses), partnerships among different interest groups (e.g. businesses and communities), or dialogue across a range of stakeholders. Adaptive leadership has a crucial role to play in helping to identify the shared alignment of objectives and scope for collective action across different silos and levels of the response. Such interactions enrich the debate, are inclusive, and improve ownership of decisions.*

*We live in a complex, interconnected global system. #SystemsThinking offers a way of seeing a reality that recognises the interrelatedness of things. This is crucial to deliver on the ambitious 2030 Agenda.*

**Is there any encouraging message that you would like to share with the farmers of the world that are taking care of global food security, planet, prosperity and also facing the burden of the COVID 19 pandemic?**

*The 2030 Agenda and the future of our planet and its people depend on well-functioning food Systems everywhere. And Food systems are about people and the planet.*

*Now, more than ever is a time for sharing experiences and learning from one another, and we learn it as we're going on. Farmers are the bedrock of society and will need support – crucial to nutritional and food security for all.*

# Farmers' Nature Based Solutions – Combining mitigation, adaptation, resilience, and biodiversity conservation in an affordable and inclusive, tested model.

## Farmers' Nature Based Solutions – Combining mitigation, adaptation, resilience, and biodiversity conservation in an affordable and inclusive, tested model.

by Giovanni Vanni Frajese, Scientific Advisor and Council Coordinator, World Farmers' Organisation

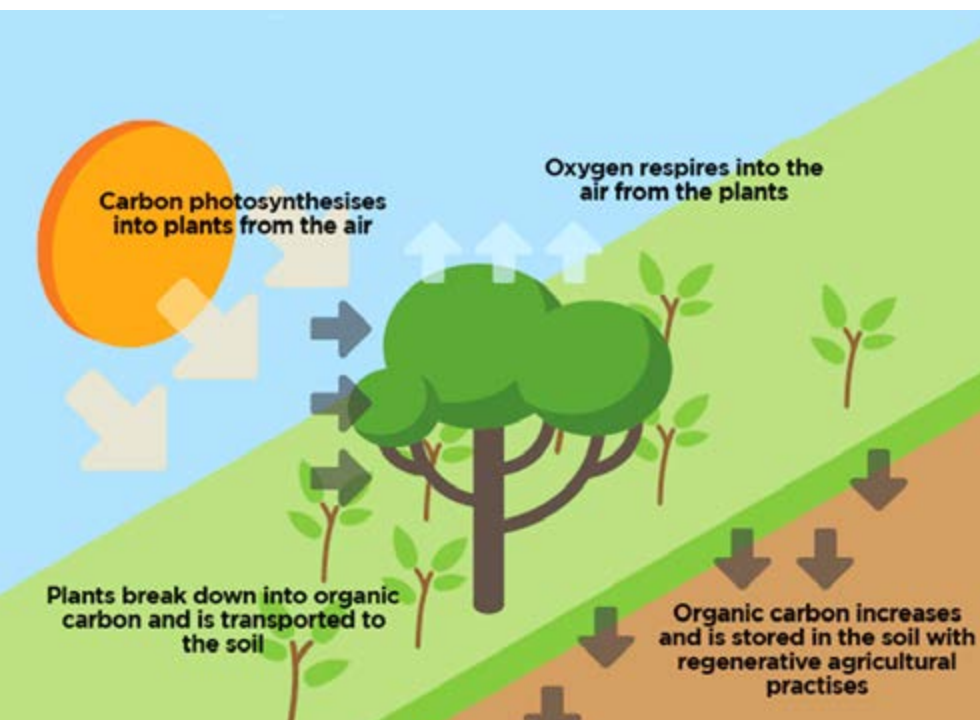
Agriculture is undoubtedly a source and beneficiary of nature-based solutions: to nurture their crops and forestry, sustain their livestock and perform aquaculture and fishery activities, farmers depend on soil, water and air; resources that are at the core of their daily lives. Their conservation is crucial for the sustainability of the agricultural sector, and climate change constitutes a crucial challenge in this effort.

Living and working closely to nature- closer than any other economic actor- farmers are at the frontline of changes in climate and nature itself, struggling to adapt their activity to a flexible environment.

However, adaptation is just one side of the coin, as agriculture has the potential to contribute immensely to the fight against climate change through carbon sink, and the preservation of biodiversity. Nature-based solutions in agriculture can combine climate change mitigation, adaptation, disaster risk reduction, biodiversity conservation, and sustainable resource management.



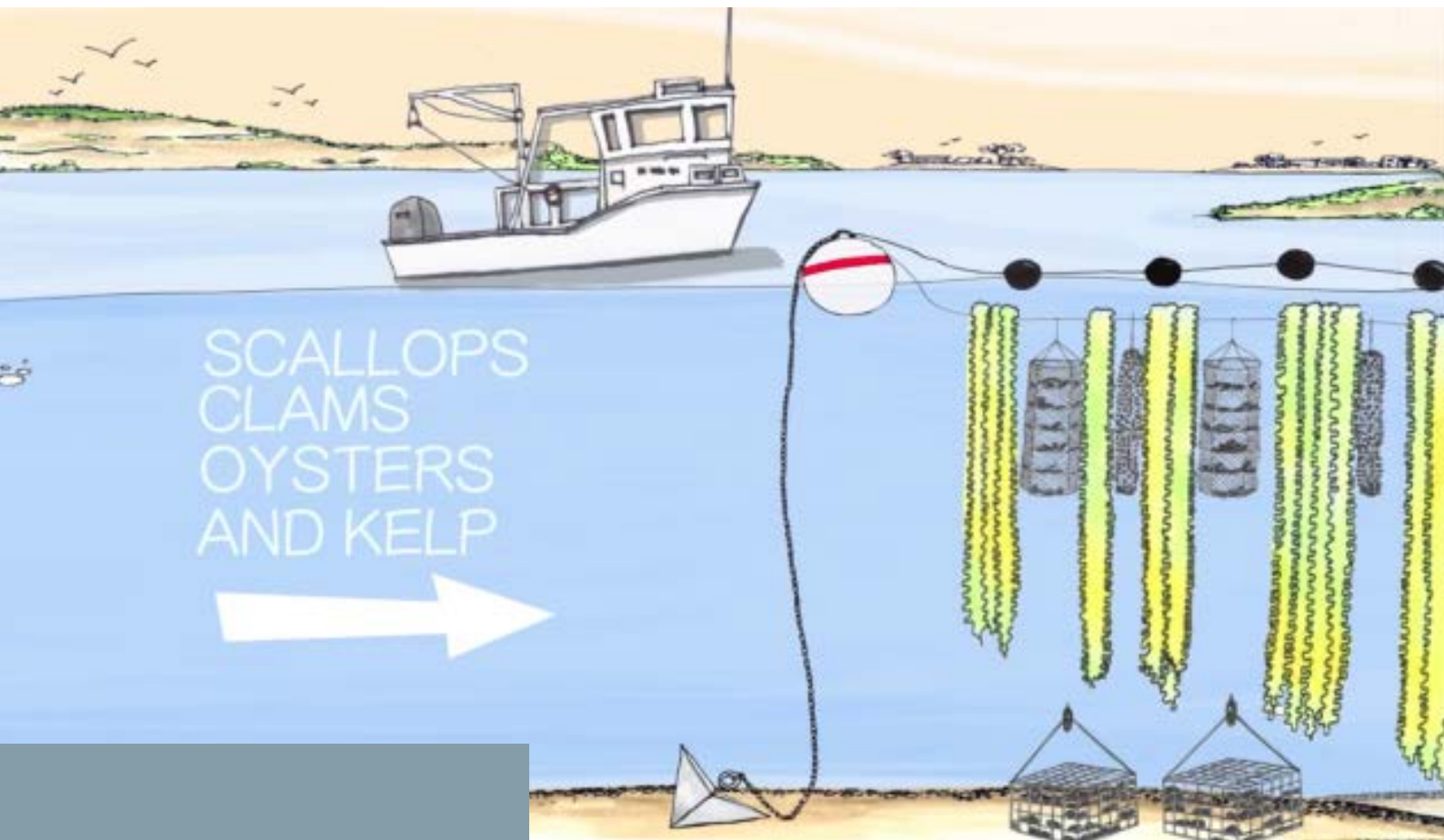
Prof Giovanni V. Frajese is currently the director of the "SMART Lab" at the "University of Rome Foro Italico", and researches medicine and biotechnologies with interest in the field of Endocrinology, Oncology, Metabolism and Nutrition. He graduated in 1996 in Medicine at the University of Rome "Tor Vergata" and specialized in Endocrinology and Dysmetabolic diseases in 2001. He has authored over 70 papers in international peer-reviewed scientific journals. Member of several societies including Endocrine Society (USA), American Diabetes Association (ADA), N.Y. Academy of Sciences, SIE (Italian Society of Endocrinology), Prof Frajese is the Scientific Advisor for the WFO and Coordinator of the WFO Scientific Council, bringing together almost 20 scientists across different domains to make sure that farmers' ambitions are answerable to the best available science.



Worldwide, farmers practising sustainable agriculture are an essential part of the climate action through nature-based solutions. Some examples of farmers driven, successful, regenerative, and game-changing ideas:

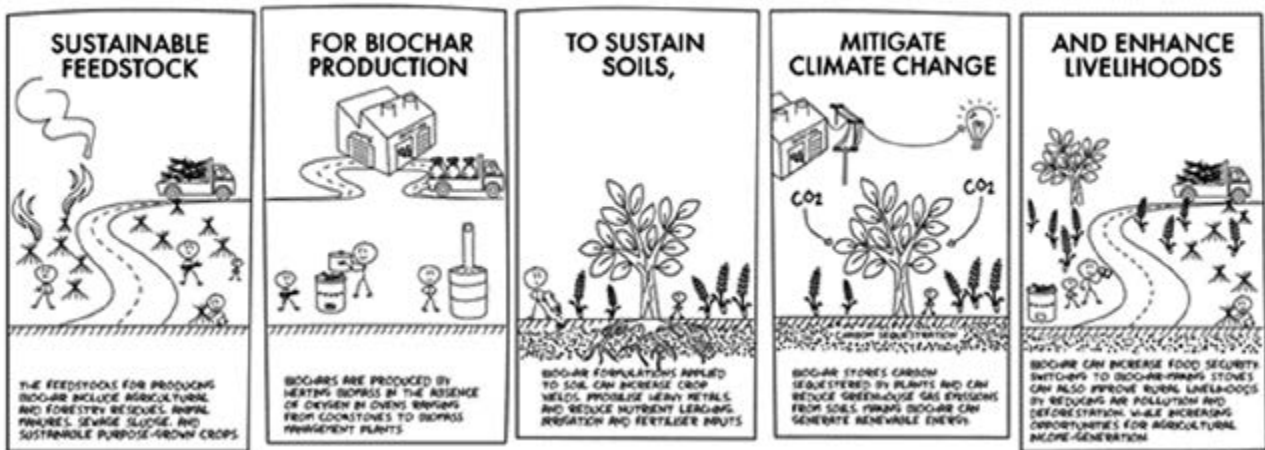
## Aquaculture

Imagine a vertical underwater garden with hurricane-proof anchors on the edges connected by floating horizontal ropes across the surface. From these lines, Kelp and Gracilaria and other kinds of seaweeds grow vertically downward next to scallops in hanging nets that look like Japanese lanterns and mussels held in suspension in mesh socks. Staked below the vertical garden are oysters in cages and then clams buried in the sea floor. *“Because the farm is vertical, it has a small footprint. My farm used to be 100 acres; now it’s down to 20 acres, but it produces much more food than before. If you want “small is beautiful,” here it is. We want ocean agriculture to tread lightly. Our 3D farms are designed to address three major challenges: First, to bring to the table a delicious new seafood plate in this era of overfishing and food insecurity; second, to transform fishermen into restorative ocean farmers; and third, to build the foundation for a new blue-green economy that doesn’t recreate the injustices of the old industrial economy”.*



## Biochar

Biochar is a charcoal-like substance that is made by burning organic material from agricultural and forestry wastes in a controlled process called pyrolysis. During pyrolysis organic materials, such as wood chips, leaf litter or dead plants, are burned in a container with very little oxygen. As the materials burn, they release little to no contaminating fumes. During the pyrolysis process, the organic material is converted into biochar, a stable form of carbon that cannot escape into the atmosphere. **Biochar production is a carbon-negative process**, which means that it reduces CO<sub>2</sub> in the atmosphere. Biochar contributes to the mitigation of climate change by enriching the soils and reducing the need for chemical fertilizers, which in turn lowers greenhouse gas emissions. The improved soil fertility also stimulates the growth of plants, which consume carbon dioxide.



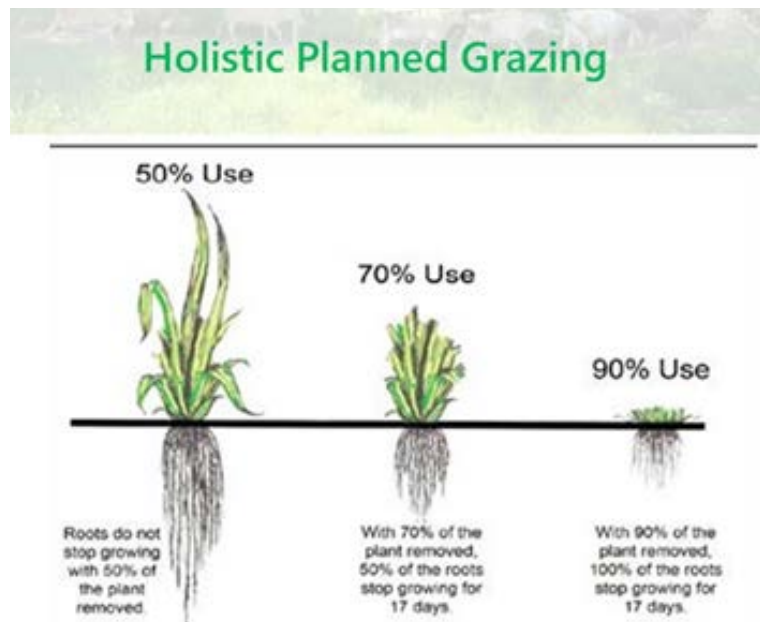
## No till Practices

No-till practices allow the soil structure to stay intact and protect the soil by leaving crop residue on the soil surface. Improved soil structure and soil cover increase the soil's ability to absorb and infiltrate water, which in turn reduces soil erosion and runoff and prevents pollution from entering nearby water sources. No-till practices also slow evaporation, which not only means better absorption of rainwater, but it also increases irrigation efficiency, ultimately leading to higher yields, especially during hot and dry weather. No-till saves the farmer time and money decreasing the fuel expense by 50 to 80 percent and the labor by 30 to 50 percent. According to Rodale Institute, adopting regenerative agricultural practices across the globe could sequester global annual greenhouse gas emissions, which is roughly 52 giga-tonnes of carbon dioxide

## Holistic Planned Grazing

To achieve desired economic goals, regenerative grazing farmers manage specifically to optimise four key ecosystem functions:

- 1) maximise energy capture via photosynthesis to drive ecosystem function,
- 2) maximise capture of incoming precipitation, retention in the soil and cycling through plants,
- 3) maximise nutrient cycling through plants and soil to facilitate biotic function and productivity,
- 4) create and maintain high biodiversity below and above ground to increase ecosystem stability and productivity.



## Sustainable Agroecosystems

Farmers successfully using regenerative agricultural practices have done so using the following conservation practices:

- Changing plough tillage to no-till cropping and using precision agriculture to moderate the rate and timing of application of agrochemicals and water;
- Diversifying annual cropping systems to include legumes, perennial crops, and forages in rotations;
- Using cover crops in conjunction with row crops to keep the soil covered;
- Reintegrating grazing animals back into cropping systems; using pasture-ley rotations and pasture-cropping;
- Using organic soil amendments, such as cover crops, manure, and biofertilizers, reducing nitrogen use;
- Changing the type of fertilizer used (e.g., legumes, controlled-release, and nano-enhanced fertilizers);
- Applying biotic fertilizer formulations that feed the soil microbial systems and improve mycorrhizal function, reducing N and phosphorus (P) runoff and groundwater losses.
- Improving grazing management, converting marginal and degraded cropland to permanent pasture, agroforestry, and restoring wetlands.

Farmers are committed to finding alternatives to business as usual, a different approach that means a safer, healthier, bio-diverse system. The added values of different regenerative approaches include increased resilience to extreme events and increased economic value of the crops.



IN DEPTH



# Climate-smart agriculture supports resilience of Latin American farmers

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# Climate-smart agriculture supports resilience of Latin American farmers

by Deissy Martínez Barón, Regional Program Leader, CCAFS in Latin America

Who feeds Latin America during times of crisis? The answer is easy, but producing the food needed requires joint and coordinated work between different actors at different levels.

According to BID, smallholders are responsible for 60% of the food produced in Latin America, but climate change and variability are making their work more difficult. Adding poverty and inequality realities into the equation does not make it any easier. In sum, the pathway to improve livelihoods is highly complex.

In the development of solutions together with rural communities to address these challenges, the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) has focused its work on generating robust evidence on climate-smart agriculture ([CSA](#)) in order to inform programs and investments from a diversity range of stakeholders. This has been done through the Climate-Smart Villages ([CSV](#)).

CSA aims to support decision-making processes that lead to the implementation of practices and technologies that help to improve productivity and food security, increase adaptation and reduce greenhouse gas emissions. CCAFS jointly with partners and farmers have co-developed, tested and evaluated different agricultural practices and technologies, as well as access to climate services, so that they assess its contribution to CSA goals. This joint co-generation of knowledge has allowed farmers and rural families to improve their adaptive capacity, they are able to plan their crops, decided what varieties to plan and when by using local agroclimatic forecasts.

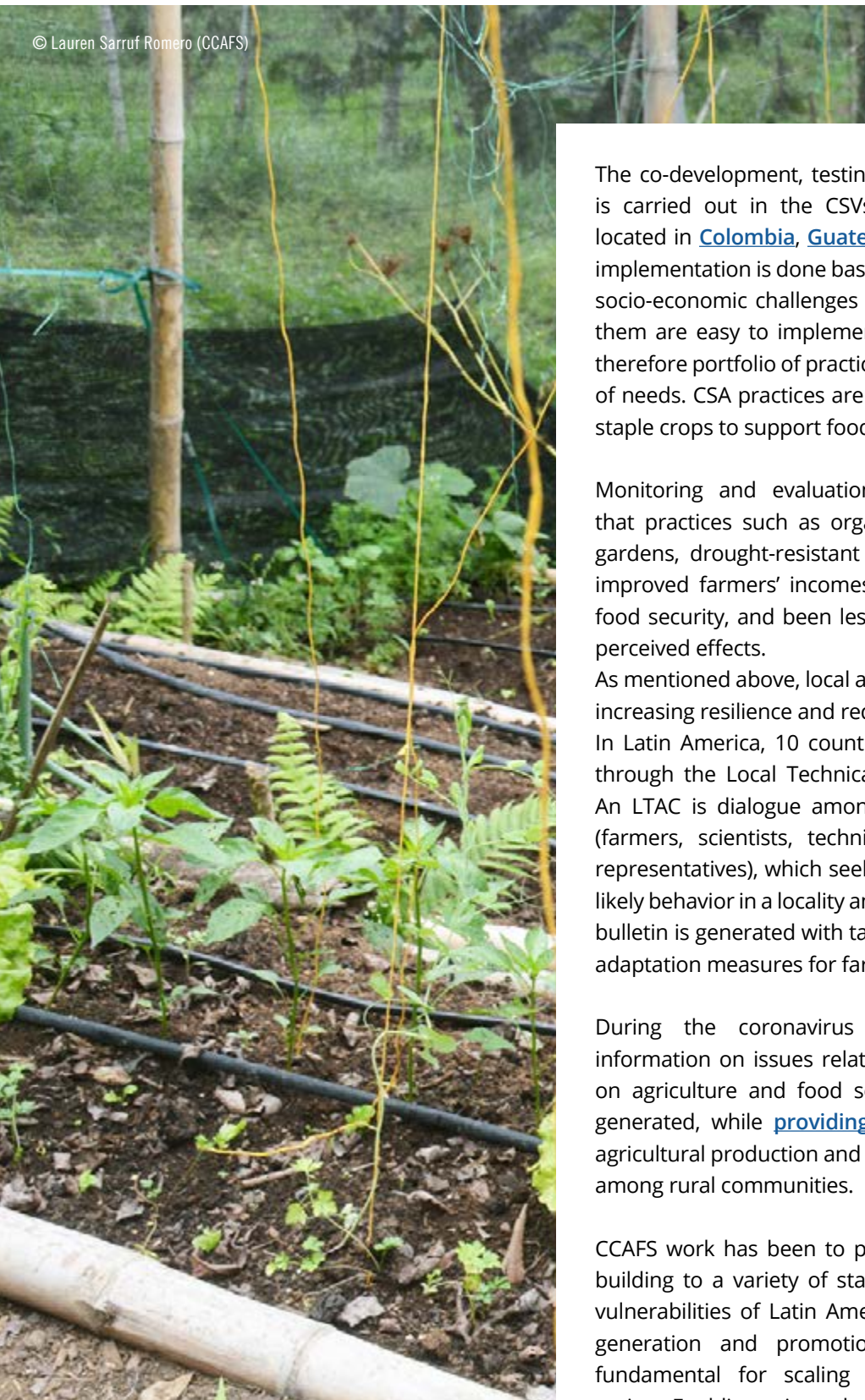


Deissy Martinez-Baron is the Regional Program Leader for CCAFS in Latin America. She plays a major role in regional partnership development aimed to build impact pathways so that knowledge in climate change leads to a resilient agriculture in Latin America.



Who feeds Latin America during times of crisis? The answer is easy, but producing the food needed requires joint and coordinated work between different actors at different levels.

© Lauren Sarruf Romero (CCAFS)



The co-development, testing and assessment of CSA practices is carried out in the CSVs. The ones in Latin America are located in [Colombia](#), [Guatemala](#) and [Honduras](#). CSA practices implementation is done based on the climate vulnerabilities and socio-economic challenges of rural families, therefore most of them are easy to implement. There is no one-fits-all solution, therefore portfolio of practices are designed to address a variety of needs. CSA practices are developed for both cash crops and staple crops to support food security and income generation.

Monitoring and evaluation results from CSV have shown that practices such as organic compost, climate-smart home gardens, drought-resistant seeds, and water harvesting have improved farmers' incomes, increased productivity, improved food security, and been less affected by climate, among other perceived effects.

As mentioned above, local agroclimatic information is crucial for increasing resilience and reducing climate risks of rural families. In Latin America, 10 countries are providing that information through the Local Technical Agroclimatic Committees ([LTAC](#)). An LTAC is dialogue among a diversity of local stakeholders (farmers, scientists, technicians, public and private sectors representatives), which seeks to understand the climate's most likely behavior in a locality and based on that, a local agroclimatic bulletin is generated with tailored-made recommendations and adaptation measures for farmers.

During the coronavirus pandemic, through the LTACs information on issues related to the [effects of the pandemic](#) on agriculture and food security in Latin America has been generated, while [providing recommendations](#) for increasing agricultural production and addressing the impacts of COVID-19 among rural communities.

CCAFS work has been to provide robust science and capacity building to a variety of stakeholders for reducing the climate vulnerabilities of Latin America's food systems. Joint evidence generation and promotion of CSA practices have been fundamental for scaling their implementation across the region. Enabling science-based and informed decision-making processes for all food systems actors is a way to start the transformation of our food systems and a step forward for achieving the sustainable development goals.

# DEMETER – Helping farmers to improve irrigation with reduced water and energy consumption

## DEMETER – Helping farmers to improve irrigation with reduced water and energy consumption

by Martin Klopfer, Pilot Activities coordinator, and Gráinne Dilleen, Communication and Dissemination coordinator, for the DEMETER project



With the impact of climate change being felt by farmers across the EU, the need for irrigation has become an increasing issue. Offering solutions based on open standards allows farmers not only to save water and energy, but to choose and combine hardware and software from different providers. This adds a level of long-term investment security.

The Horizon 2020 project [DEMETER](#) supports the digital transformation of Europe's agri-food sector by addressing both challenges. **Twenty real-world pilot projects, grouped into five pilot clusters, are running within DEMETER to demonstrate and evaluate how agricultural innovations and extended capabilities benefit from the interoperability mechanisms.** Cluster 1 focuses on an efficient water management system, improving the consumption of water and energy in irrigated arable crops.

One pilot within this cluster addresses optimised irrigation by improving the automation of the irrigation zones. Running in two irrigation community locations in Spain, the pilot uses interoperable remote-control systems and robust management systems adapted to each particular condition.



[Martin Klopfer](#) is responsible for planning and managing OGC interoperability initiatives with a focus mostly on European projects.

Mr Klopfer holds a degree in Geography, has been working with OGC in various roles since 1997 and [coordinates the pilot activities in DEMETER.](#)



[Gráinne Dilleen](#) is the [Communication and Dissemination coordinator for the DEMETER project.](#) She is also

a PhD researcher at TSSG/ Waterford Institute of Technology, Ireland. Her current research is focused on understanding the farmer's decision-making process in adopting smart farming technologies.



Pilot site demonstrating rice crop fertilization and irrigation system.

Inputs from both soil sensors and meteorological stations, as well as satellite images, will optimise the irrigation system, resulting in considerable savings of water and energy. In addition, if irrigators need to change components of their system in the future, the interoperability and open-standards mechanisms developed within DEMETER will ensure easier facilitation.

Another pilot focuses on the management and automation of rice and maize irrigation, along with nitrogen zonal fertilisation. Running in sites in Greece and Central Macedonia, the pilot will provide a service for maximising water use efficiency through the deployment of sensor systems and science-based decision making. For example, real-time salinity and water height sensors can automatically control electric water input valves for irrigation and water outputs valves for drainage. This pilot will result in water quality and quantity optimisation and nitrogen fertilisation savings, decreasing the carbon and environmental footprint of both crops.


Achieving greater efficiencies in water and energy savings, whilst safeguarding the farmer's investments, are one example how standards-based and interoperable technologies developed within DEMETER help to tackle climate change.



Smart irrigation sensor at pilot site measuring salinity and water height.



**For more information**  
[www.h2020-demeter.eu](http://www.h2020-demeter.eu)



**Raising the voice of farmers  
in their struggle to fight  
climate change and the  
pandemic outbreak**

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## Raising the voice of farmers in their struggle to fight climate change and the pandemic outbreak

by the Climakers Alliance

The COVID-19 pandemic outbreak arrived at a time when many countries in the world are already confronted with serious pre-existing burdens of climate change and food insecurity. Many farmers experienced and are still experiencing huge losses due to natural disasters – droughts, floods, insects' invasion – and the pandemic outbreak exacerbated existing critical conditions. While the world is struggling to flatten the curve on COVID-19, climate change effects have not disappeared, and neither should action to fight climate change.

We can consider COVID-19 as a turning point in the history of food systems: it has demonstrated that agriculture is at the centre and farmers are key actors of the food systems and that the system is fragile. However, COVID-19 also has demonstrated that speedy, collective action is possible where all the actors are capable of immediate changes when called upon to act.

The way farmers and all the stakeholders of the food value chain responded to the resulting shocks of the pandemic outbreak could be considered as a best practice to react resiliently to current and future climate change ripple effects: when the world came to a standstill, holding its breath for the COVID-19 pandemic to pass, farmers and the broader agricultural sector have been working to ensure food and nutrition security for the world population.

Always at the forefront of dealing with nature, farmers have embraced the necessary risks and stood up for their families, communities and home countries. But farmers are not alone in this: sustainably bringing nutritious food onto the tables of billions of people is a joint effort of the entire value chain. Now, more than ever, it is important to ensure that we are not breaking this chain, and we are sending a strong message of smooth collaboration and joined-up thinking.

That is why, this year, we, the members of The Climakers Alliance decided to raise the voice of farmers in their struggle to fight climate change and the pandemic outbreak, by asking them two questions:



The Climakers are the members of the Farmers Driven Climate Change Alliance, namely the farmers of the world, who are leading this initiative, and other stakeholders – including the private sector, civil society, research centres, multilateral organizations – that are **committed to providing bottom-up, pragmatic and successful solutions to climate change.**

**While the world is struggling to flatten the curve on COVID-19, climate change effects have not disappeared, and neither should action to fight climate change.**

- In the actions of mitigating climate change effects and adapt it to, how does COVID-19 affect the capacity of the farmers in your country?
- Which are the best practices you are implementing to adapt to it and/or mitigate its effects considering the need to continue working during the health emergency?

The experiences collected have been published in the [COVID-19 Special Edition of "The Climakers-Stories from the Field"](#). This publication presents 15 science-assessed best farming practices from 14 countries across the globe with the aim to shine a light on the way the farming community has been reacting resiliently to the climate crisis during COVID-19 pandemic outbreak. They show and testify the unique practical expertise of farmers, as a combination of traditional knowledge and experience from living and working on the land and with the hands in the soil every day.

**Climate Change does not stop, and neither do the Climakers!**

Check out more about these stories and the farmers-driven climate change agenda at [www.theclimakers.org](http://www.theclimakers.org)





## STORIES FROM THE FIELD



**BELGIUM:** In Belgium, over the last years, the periods of drought are getting longer, therefore smart irrigation techniques that use water extremely efficiently are being implemented. Farmers are more secure of a stable and high-quality yield, even though periods of drought, while using water efficiently.



**CANADA:** Climate change has been affecting farming in Quebec with warm temperatures that last longer and cold temperatures that last shorter. The pandemic worsened the already difficult situation and some best practices were implemented such as the opening of borders to allow seasonal workers enter the country; farmers were encouraged to plant trees between their fields to form wind-breaking hedges; and increased use of the cover crop.



**GERMANY:** From Germany, an experience of a farm testifies the benefits of improving soil health to fight climate change, while leveraging on production for local markets to cope with COVID-19 value chain disruption.



**BELIZE:** In Belize, in order to cope with the challenges faced by climate change and COVID-19, farmers downsized and diversified production, developed market techniques and invested in water harvesting.



**ECUADOR:** Because of the increase in the seawater temperatures and the spread of COVID-19, oyster farmers faced multiple challenges, like a prolonged presence of predators in the sea and a decrease in oysters' production. The initiatives carried out by the Cooperativa de Pescadores Artesanales Virgen de Regla supported producers to keep working and accessing new markets, thus improving their incomes.

## STORIES FROM THE FIELD

**GUATEMALA:** In Guatemala, farmers have been diversifying their production and markets (from international to local markets) to cope up with climate change and COVID-19.



**GUATEMALA, HONDURAS:** The spread of COVID-19 has worsened an already complicated situation: roofed gardens, water harvesting and bio preparations are the main practices implemented by farmers in order to mitigate the negative impacts of climate change.



**HONDURAS:** In Honduras, climate change and COVID-19 placed a huge burden on the production of avocado, potato, strawberry and basic grain crops. Farmers had to find alternative solutions in order to continue to produce such as the use of greenhouses and improved seeds tolerant to droughts.



**MAURITIUS:** The COVID-19 pandemic coupled with climate change, have amplified the existing pressures on the farming sector. Farmers have been implementing many mitigation practices (Agro-ecological practices; minimised use of pesticides). FALCON (Farmers in Agriculture, Livestock, Cooperative, Organic Network) is supporting the adoption of these solutions and helping producers to cope up with COVID-19 disruption in the value chain (marketing; inputs' purchase).



**IVORY COAST:** Ivory Coast is facing both effects of climate change (increased temperature, droughts) and the effects of COVID-19 (farmers and food value chain actors' income decline). ANASEMCI (National Association of Seed Companies of Ivory Coast) and PANAFCI (National Platform for Family Agriculture in Ivory Coast) promoted practices to adapt to climate change (i.e diversified production) and face COVID-19 advocating for farmers raising their needs during the pandemic.

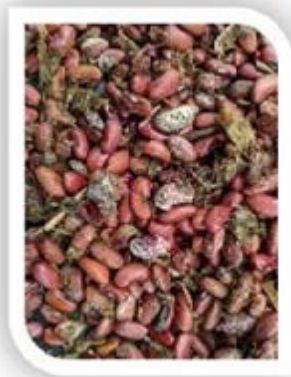


**KENYA:** In Kenya, the National Farmers' Federation (KENAFF) developed an emergency response plan to support farmers respond to COVID-19, Climate Change and desert locusts' invasion built on information dissemination and knowledge sharing, USSD (mobile technology), market facilitation, Model Kitchen Garden, Farmer Field Schools (FFS) and need-based extension services.

## STORIES FROM THE FIELD



**NEPAL:** Because of COVID-19, under the slogan “rural products in urban areas”, NACCFL is working in the front line on helping farmers selling perishable and non-perishable products helping them to find a market. Furthermore, NACCFL decided to train farmers in organic agriculture, who started farming accordingly, adopting agricultural practices with the aim to mitigate the effects of a changing climate.



**NICARAGUA:** Climate change has brought extreme climatic variations that have significantly affected the national territory and caused the loss of agricultural production and even life losses. However, despite the challenges faced, seed banks proved to be a model that can survive in this difficult scenario as seed facilitators.



**NEW ZEALAND:** In order to curb the negative impacts of a changing climate and the spread of the pandemic, farmers in New Zealand implemented best practices such as online trade; increased farm planting of trees; actions to increase biodiversity; riparian protection and stock shelter among others. Therefore, farmers were able to work despite the difficult situation.



**PARAGUAY:** Pandemic has brought with it challenges and Paraguay has been no exception. Specifically, the two most affected sectors were floriculture and aquaculture. Thanks to organized association, product and market diversification, farmers managed to curb the negative impacts of the pandemic

# COVID-19, climate change and disaster resilience: Time for Leadership and Action



# COVID-19, climate change and disaster resilience: Time for Leadership and Action

by Irina Zodrow, Head of the UNDRR Partnerships and Stakeholder Engagement Unit, UN Office for Disaster Risk Reduction

When, in 2015, the UN Member States signed up to the [Sendai Framework for Disaster Risk Reduction](#), they called on the world to stop trying to manage disasters after they strike and instead comprehensively reduce and prevent [all natural and man-made hazards and risk](#) before the tragedy.

Yet, in practice, implementing this ask over the past five years often seemed a little too much and a little too complicated for policy-, business- and other decision makers already busy grappling with climate change whilst responding to a series of relentless disasters.

2020 has changed this view dramatically. Indeed, it seems like the whole world is talking about risk and resilience these days. As [Mark Carney](#) put it, 'after decades of risk being downloaded onto individuals, the bill has arrived, and people do not know how to pay it'. Sadly, it took a global disaster like COVID-19, coupled with runaway climate change, to raise our awareness and make 'risk' a topic for everyone.

Yet, the current tragic situation is also an opportunity for radical systemic change away from the insane cycle of disaster-respond-repair-repeat and towards risk prevention.

Recognizing the setback COVID-19 inflicted on the climate and development goals, [Governments recently reiterated](#) the need for a **more coherent approach to managing climate change and broader disaster risks, including pandemics**, and a better understanding of related fiscal risks.

For this to happen, we need a clear vision, plans and competent, empowered and accountable institutions acting on scientific evidence for the public good. We need to rephrase our economic narrative to internalize economic, financial, environmental and social vectors and accurately price climate and disaster risks within all public and private financing and investment.

And, probably the biggest challenge, we all need to review our behaviors, be open for change and work hand-in-hand to build resilience. As pointed out in the [2019 Global Assessment Report and the IMF](#), farmers are beacons of resilience through their critical role in national and local food value chains as well as for the sustainability of the global food system, both crucial ingredients for global political and financial stability. As such, this is a call for leadership and action.



Irina Zodrow is the Head of the UNDRR Partnerships and Stakeholder Engagement Unit at the UN Office for Disaster Risk Reduction. In her role, Irina leads the engagement with the private and financial sector, science and academia, civil society organizations and Parliamentarians, including facilitating collaborative, cross-sectoral approaches to risk reduction and resilience.



For more  
information

[www.UNDRR.org](http://www.UNDRR.org)

# Climate change: an added complexity to addressing health risks



# Climate change: an added complexity to addressing health risks

by Dr Monique Eloit, Director General, World Organisation for Animal Health (OIE)

Climate change impacts the health of every person, animal, plant, body of water and soil type. There is not one living thing - terrestrial or aquatic, vertebrate, or invertebrate - that is not nor will be affected by rising temperatures and extreme weather patterns.

Looking at animal production, these phenomena not only result in failures in yield but also in an evolving geographic distribution of diseases and pathogens. Thus, from the animal health and welfare perspective, climate change, like globalisation of trade, adds complexity to the already multifaceted equation for global health. **Extreme, or even moderate weather events can throw health completely out of balance, just as the spread of animal disease or pathogens through trade (legal or illegal) can and does. Warmer and shorter winters, or heavier rainfalls, notably generate changes in conditions and locations of diseases carried by insect vectors,** such as Bluetongue or Rift Valley Fever. No longer are these “climate sensitive” diseases confined to certain regions of the world but are appearing in locations that have not experienced such outbreaks before.

Identifying what the World Organisation for Animal Health (OIE) can offer to reduce the impact of climate change in the context of disease emergence and evolution is challenging. In 2019, using a survey and four different scenarios to describe what the future of animal health could look like in 2030, the OIE surveyed its membership (the national Veterinary Authorities) to analyse how certain external factors (e.g. climate change, conflicts, socio-economics, trade patterns) are and will affect the work and functioning of Veterinary Services.



Dr Monique Eloit is the Director General of the World Organisation for Animal Health (OIE). Prior to her election, she occupied the function of OIE Deputy Director General (2009-2016). Doctor of Veterinary Medicine, she has also been the Chief Veterinary Officer of France and National Delegate to the OIE (2005- 2009).



**// [...] involving the agricultural sectors, Veterinary Services and beyond for a healthy environment for all living things. //**

In brief, the survey found that epidemics in livestock diseases, zoonoses as well as increased antimicrobial resistance were factors of high importance to Veterinary Services, but also indicated that they were well prepared to face these factors. On the other hand, extreme weather and reduction in greenhouse gases were ranked lower. This is not at all surprising as the current modus operandi of the Veterinary Services is to be responsive to immediate effects of disease outbreaks and animal welfare issues. While they likely know and accept that there are causal links between climatic conditions and disease emergence, they are likely not equipped to respond to the consequences on animal health as result of climate change.

Having said that, Veterinary Services do want to be a part of climate change adaptation and mitigation approaches. As such, futures thinking and foresight techniques were identified as useful in management of issues as they involve multidisciplinary views on the implications of concerns such as climate change to establish strategies well as to test current strategies. Presently, the OIE is exploring the use of these approaches for improving preparedness and resilience building in Veterinary Services inclusive of climate change impacts.

Addressing climate change is of the utmost importance to the health of every living thing. And while the agricultural sector is being blamed, as if it were separate and apart from our lives, it is also adversely impacted by climate change. With this in mind, mitigating or adapting to climate change now and in the future will not be solved by extreme measures, but rather by some middle ground or yet to be realised system, involving the agricultural sectors, Veterinary Services and beyond for a healthy environment for all living things.





# **A Just Rural Transition: How farmers can drive the transformation agenda**

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# A Just Rural Transition: How farmers can drive the transformation agenda

by Melissa Pinfield, Executive Director, Just Rural Transition Secretariat

Farmers and rural communities the world over are under huge stress. COVID-related disruptions, climate and environment impacts, shifts in consumer demand and customer requirements, access to finance and insurance are very real and growing challenges.

While farmers are first and foremost in the business of producing food, fibre and fuels, they are increasingly recognised—but rarely rewarded—for the role they play in environmental stewardship, nutrition and food security, and the backbone of rural economies.

The [Just Rural Transition](#) initiative, launched at the UN Climate Action Summit in September 2019, seeks to bring increased global, national and local attention to these issues. Stakeholder Associations (such as the World Farmers' Organisation) are working together with governments, agri-food companies and investors, knowledge and implementation partners around one of the key challenges of the coming decade: **providing nutritious food for a growing global population while protecting the vital natural systems which sustain life.**

The JRT seeks to unlock two key opportunities: (a) supporting governments repurpose agricultural subsidies and import barriers away from harmful practices and towards incentives that reward farmers for delivering public goods and (b) scaling innovative investment partnership that promote sustainable agriculture while also improving rural livelihoods.

There is a huge opportunity to leverage upcoming international meetings, such as the Food Systems Summit and the COP26 climate conference to make progress on this agenda. Initiatives like [Climakers](#), which bring farmers voices to these global processes, play such an important role in highlighting the need for solutions that work for people on the front-line. Top-down political commitments are important, but it will be through innovative, multi-stakeholder partnerships which put farmers in the driving seat of the transformation agenda that real change will happen. We look forward to working with the World Farmers' Organisation as a key partner in taking forward this initiative.



**Melissa Pinfield is a Senior Fellow at Meridian Institute, where she is Executive Director of the Just Rural Transition Secretariat.** Prior to embarking on this role, Melissa was Programme Director of the Food and Land Use Coalition (FOLU) based at SYSTEMIQ.



DIALOGUES

# Innovating towards climate-resilient food production

Photo by Ana-Maria from Pexels

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# Innovating towards climate-resilient food production

by Michael Keller, Secretary General, International Seed Federation (ISF)

Amid a worldwide health crisis and a continuing climate emergency, the search continues for ways to transform agriculture towards a more sustainable food system. Today we face enormous pressure to produce enough food while adapting to climate change. Warmer weather and more frequent extreme conditions will bring more pests and diseases, so plants must become more resilient, using resources such as nutrients and water more efficiently.

Fortunately, science and nature provide us with important tools. For over a century, plant breeders have been successfully selecting, breeding, and improving plants to the benefit of farmers and society alike: the doubling of Mexican wheat yields in the 1960s, the rescue of hundreds of millions from starvation in South Asia, and the increase of European crop yields after World War II. Today's improved varieties are even more productive, more nutritious, more resilient.

Plant breeding delivers innovations that meet the needs of farmers and consumers. With the help of the latest breeding methods, plant breeding will be more than ever part of the solution towards climate-resilient agriculture.

Genome editing has the potential to increase crop resilience and solve challenges for farmers and the planet. Ever since, breeders have been working on improving varieties – and with the latest breeding methods, breeders are able to make improvements with more precision than ever before and to support beneficial characteristics such as drought tolerance or improved nutrition.



Michael Keller is Secretary General of the International Seed Federation.



These tools could help breeders deliver improved crop varieties more efficiently, providing farmers with crops that have a better chance of survival and, thus, allow them to grow enough while improving their use of natural resources like energy, land and water.

**As a society, we need full and open discussions about innovation to achieve climate resilient food production. One of the most effective ways to spark dialogue is to align with other actors in the value chain, and for ISF, coalescing with farmers is a clear and obvious step.** The seed sector and farmers are working towards the same goals and must continue to strengthen cooperation and build understanding. That is why my organization, ISF, actively engages with the World Farmers' Organisation (WFO) and its Climakers Initiative, which puts farmers at the heart of the discussions on climate change.

Like WFO, ISF recognizes the key role of farmers in providing food for the world in a sustainable way. With seed as one of the most critical inputs to agricultural production, both farmers and the seed sector are similarly seeking solutions to the agricultural and ecological challenges facing our world and achieving together the Sustainable Developments Goals 2030. We know that this cannot be done in isolation. It is only through our collective and conscious efforts that we will make a difference. I would like to call for an active, joint engagement on our way to the Food Systems Summit 2021, which provides a unique opportunity to discuss and share solutions to transform and improve our way to feed 9 billion people on the planet.

“ One of the most effective ways to spark dialogue is to align with other actors in the value chain, and for ISF, coalescing with farmers is a clear and obvious step. ”

