








CONSCIOUS PLANET PAVILION SIDE EVENT AT COP28
December 5th, 2023 (World Soil Day) from 9h00 to 10h30



Event Theme and Title	<p>“Assessing progress in agriculture concerning soil health”</p> <p><i>The need for MRV [Monitoring, Reporting & Verification] tools for Policy makers, Farmers, Businesses and Civil Society to assess value chains and report to consumers</i></p>
Context	<p>Measuring and validating farmland and soil health is not an easy process for all stakeholders from farm to fork. Policy makers have to get access to reliable data to determine their policy orientations, farmers need to have access to affordable and reliable information to confirm or change their technical choices in the fields, investors and businesses have to report on their impacts (value chains and own processes) in terms of emissions and storage (not talking about carbon credit buyers) and civil society, including consumers, must be provided with reliable and regular information to guide their lifestyle choices.</p> <p>All stakeholders have interests in MRV tools, reliable and at an accessible cost.</p>
Event Format	<p>A 1h30 (90 min) format with a roundtable involving 6 speakers mixing scientists, technologies providers and users.</p>
Description	<ol style="list-style-type: none"> 1. Welcome words by a representative of Save Soil Movement 2. Introduction to set the scene with the context and expectations from all stakeholders – done by the moderator. 3. A roundtable with speech only (no presentation support – 5 minutes introduction speech by each speaker) to allow each speaker to explain its positions or propositions, and then dialogue between speakers and interaction with the attendance under the animation of the moderator. 4. A conclusion/wrap up to extract the main messages and findings of the event by the moderator or an external witness (TBD).
Speakers/moderator	<ul style="list-style-type: none"> - Dr. Paul Luu, Executive Secretary of the “4 per 1000” Initiative (moderator) - Dr. Beverley Henry or Dr. Budiman Minasny, Co-Chair and Member of the Scientific and Technical Committee of the “4 per 1000” on the <i>global vision of MRV and the scientific knowledge of soil carbon sequestration mechanisms</i>, - Mr. R.K. Warriar, Programme Director & Regional Director (BAIF Development Research Foundation) for the <i>NGO and farmers points of view</i>


	<ul style="list-style-type: none"> - <i>Business point of view:</i> <ul style="list-style-type: none"> o Mrs. Sandrine Sommer (Moët Henessy) o Mr. John Mullins (Amarenco) - TBC - <i>Technical innovations on MRV on soil health or soil carbon sequestration:</i> <ul style="list-style-type: none"> o Mrs. Adrienne de Malleray (Genesis), o Mr. Bradford M. Willis (Soil in Formation), o Dr. JK Ladha (Digital Green). - Dr. Ananya Rao (UNESCO and Heartfulness Institute) to conclude and wrap up the side-event
Target Audience	All categories of stakeholder and general audience for COP blue zone
Event language	English only
Timing	<ul style="list-style-type: none"> - Welcome words (5 min) - Dr. Paul Luu, Introduction (5 min) (moderator) <ul style="list-style-type: none"> o Dr. Beverley Henry or Dr. Budiman Minasny (5 min) o Mr. R.K. Warriar (5 min) o Mrs. Sandrine Sommer (5 min) o Mr. John Mullins (5 min) o Mrs. Adrienne de Malleray (5 min) o Mr. Bradford M. Willis (5 min) o Dr. JK Ladha (5 min) - Interaction between panelists (20 min) - Q&A with audience (20 min) - Dr. Ananya Rao, conclusion and wrap up (5 min)

Speakers

	<p>Dr. Paul LUU</p> <p>60 years old, Paul LUU is an agronomist specialized in tropical agronomy, graduate from AgroParisTech, the Institute of tropical areas and the University of Montpellier (PhD).</p> <p>He began in the field (6 years) in agronomic research projects (St. Lucia, Sri Lanka and Tonga) before joining the international Relationship Department of the French Ministry of agriculture.</p> <p>He was in charge (7 years) of relationship with FAO, the WB and the CGIAR, of bilateral relationship with Africa and the Mediterranean area, and management of the French food aid (200 000 t of grain per year).</p> <p>Since 2002, he has contributed for 9 years to the development of agriculture in the French overseas departments and territories as Technical Advisor "Agriculture, Fisheries and Forestry" and as Director of ODEADOM.</p> <p>In 2011, Paul LUU was appointed Director of Agropolis International (Montpellier) before joining the CGIAR in September 2013 as Liaison Officer with the French Authorities, then as Protocol Officer.</p> <p>From September 2016, Paul is Executive Secretary of the "4 per 1000 Initiative: Soils for food security and climate", launched at COP 21 in Paris.</p>
	<p>Dr. Beverley HENRY</p> <p>Beverley Henry is a plant physiologist with over 30 years' experience in academic, government and industry roles related to agricultural productivity and environmental management. She has a PhD from University of Queensland, Australia and is currently an Adjunct Associate Professor at Queensland University of Technology, a member of the Australian Government's Emissions Reduction Assurance Committee, and an independent consultant.</p> <p>Her early research focussed on effects of environmental stress factors on plant function and growth, before shifting to more applied analyses on areas of sustainable agricultural production and natural resource management including quantifying and managing greenhouse gas emissions and sequestration, adaptation to climate variability and climate change, and sustainability reporting. She has a particular interest in the linked science/policy/industry challenges facing management of ruminant livestock in arid and semi-arid environments for food and fibre production while combating the risks of land and soil degradation. As a member of the ERAC she contributes to assessing compliance with integrity requirements of methods for crediting carbon abatement under the Australian Government climate change policy.</p> <p>She has had opportunities to participate in or lead a number of national and international projects, initiatives and advisory panels on agriculture, climate change mitigation and adaptation, land degradation and food security. Examples relating to soil carbon include the Industry Advisory Group for Australia's National Soil Carbon Program (2012-2015), the FAO Livestock Environmental Assessment and Performance Partnership Technical Advisory Group for 'Soil Carbon Guidelines', and a Global Environment Fund review project on Sustainable Land Management for Environmental Benefits and Food Security.</p>

	<p>In 2009, she was a recipient of The Ecological Society of America Sustainability Science Award.</p>
	<p>Mr. Rakesh WARRIER</p> <p>Mr. Rakesh K. Warriar is Programme Director and Regional Director at BAIF Development Research Foundation.</p> <p>BAIF is a reputed development organization and research institution working in the domain of sustainable rural development for over 5 decades and has presence across 14 states of India covering 5 million households in more than 100 thousand villages.</p> <p>Mr. Warriar has worked in various thematic and administrative capacities in BAIF. He has been associated with design, development, planning and implementation of diverse and innovative programs in the areas of agriculture, livestock development, appropriate technologies, natural resources management, renewable energy, water, sanitation, rural enterprises, community organizations, value addition etc.</p> <p>He has also been involved in coordination, documentation, review and monitoring of field programs. Currently, he heads BAIF's East Region covering four states spread across 76 districts with an outreach of over 0.7 million families.</p> <p>Mr. Warriar is an Engineer by training with an advanced degree in Planning and Development from the Indian Institute of Technology (IIT) Bombay.</p>
	<p>Mrs. Sandrine SOMMER</p> <p>Since April 2020, Sandrine Sommer has joined Moët Hennessy as Chief Sustainability Officer. She structured and launched LIVING SOILS LIVING TOGETHER, Moët Hennessy's sustainability program. She oversees the strategy for the 27 Wine & Spirits' Maisons and implements ESG initiatives worldwide in all markets.</p> <p>In 2022, she created with an advisory board of international experts the WORLD LIVING SOILS FORUM, a dedicated event around the importance of preserving Soil Health.</p> <p>Sandrine was previously Chief Sustainability Officer at Guerlain during 13 years where she created and developed a game changing Corporate Social & Environmental strategy. She holds an engineer degree in Packaging and started her career at Mars in the Packaging Development department, before joining LVMH Group in 1999.</p>
	<p>Mrs. Adrienne de MALLERAY</p> <p>Co founder of Genesis Soil Health, the world's first rating agency of soil health. With Genesis, she supports companies embarking on soil regeneration by providing them with the necessary proof of impact, and actively lobbies for soil to</p>

	<p>be taken into account in European public policy and for the implementation of a common, large-scale monitoring framework. .</p> <p>Previously journalist, Adrienne de Malleray worked for the CANAL + group, where she worked on social and environmental issues.</p> <p>She was also a reporter for print magazines. She graduated from Sorbonne University with a degree in economics and political science.</p>
	<p>Mr. Bradford M. WILLIS</p> <p>COP28 Climate Champion - Energy Sector Team</p> <ul style="list-style-type: none"> • Special Envoy for Systems Integration in the Energy Sector • Green Hydrogen Lead <p><u>Energy Sector</u> 5+ years working on climate change and mitigation-related efforts across geographies. Strong focus on integration with nature-based solutions & nature-positive development</p> <p><u>Agriculture & Soil</u> Advocate and spokesperson for Soil in Formation</p> <p><u>Climate Finance & De-Growth</u> Engaged with the efforts of regional and international multilateral development banks Advocate and member of the policies of de-growth in world economies - Club of Rome</p> <p><u>Sustainability</u> Strong focus on MRZV / SBTI-related reporting efforts from the energy sector as part of UNFCCC and Global Stocktake process for energy & ag</p>
	<p>Dr. JK LADHA</p> <p>Dr. J. K. Ladha has devoted more than 32 years to aspects of sustainable management of agriculture and natural resources for increasing food security and environmental quality in developing countries. He is an expert of soil fertility and plant nutrition; serving at different positions since 1980. Currently, he is a Principal Scientist, and an adjunct senior scientist at the Columbia University; associate in the Agricultural Experiment Station at the University of California-Davis. Dr Ladha provided leadership to the Cereal System Initiative System for South Asia and the Rice-Wheat Consortium Project that aims to sustainably enhance the crop productivity. He was a “Frosty” Hill Fellow at Cornell University (July 07–June 08) and an adjunct professor of Soil Science at the University of the Philippines (1990-2004). He was born and grew up in Gwalior, India, and earned his PhD from Banaras University in 1976.</p> <p>Dr. Ladha is recognized internationally as an authority on sustainable resource management for increasing food security and environmental quality. He has made immense contributions to international agriculture through his research, training, and extension activities in several Asian countries (Bangladesh, India, Nepal, Pakistan, Philippines, and Thailand) on problems across national and regional boundaries. Dr. Ladha is one of those unique scientists who have demonstrated success in conducting both basic and applied research. He has had an opportunity to pursue the full spectrum of basic, strategic, and applied research to find insights and develop technologies to solve farmers’ problems.</p>

	<p>Dr Ladha has published widely on issues related to sustainable and conservation agriculture. The impact of Dr. Ladha’s work is evident from his exceptionally high h-index for citations (Google Scholar, 69; Web of Science, 51; Scopus, 50). He served on the editorial boards of several international journals including the Regional Editor of Biology and Fertility of Soils. He has been involved with several international advisory/scientific review panels. He supervised 35 masters and doctoral students from a dozen countries.</p> <p>He is a fellow of the American Association for the Advancement of Science (AAAS), American Society of Agronomy (ASA), the Soil Science Society of America (SSA), the Crop Science Society of America (CSSA), the Indian Academy of Agricultural Sciences (NAAS), and an associate member of the Philippine Council of Agricultural Research (PARC). He is a recipient of several awards and honors notably, the Third World Academy of Sciences Agriculture Prize 2015, the International Crop Science Award 2015, the International Service in Agronomy Award 2011, International Soil Science Award 2010, International Plant Nutrition Institute Science Award 2009. In 2000 and 2004, the CGIAR awarded the Chairman’s Excellence Science Award for Outstanding Scientific Partnership and the prestigious King Baudoin Award for Outstanding Research to the Rice-Wheat Consortium in which J. K. Ladha was the key scientist and IRRI’s coordinator.</p>
	<p>Dr. Ananya RAO</p> <p>Individual Specialist UNESCO MGIEP, New Delhi. Senior Scientist, Forests by Heartfulness.</p> <p>Dr Ananya S Rao has a PhD from the Centre for Atmospheric and Oceanic Sciences, Indian Institute of Science, Bangalore, India. She has studied the terrestrial carbon cycle over the Indian region and has had the privilege of working with pioneers of climate change research in India. She has published research articles in peer reviewed journals and has had the honour of being invited for talks and discussion at various reputed institutes in India and abroad and is a TEDx speaker as well.</p> <p>She has extensively travelled to different forest ecosystems across the country and has always been passionate about environmental conservation. Having been a witness to shrinking forest ecosystems across the nation and the blatant effects of climate change on the life of people from all walks of life, she is doing her part to help alleviate the situation in any way possible.</p> <p>She is currently working as an Individual Specialist with UNESCO MGIEP at New Delhi and is also a Senior Scientist with Forests by Heartfulness, a global greening initiative of the Heartfulness Institute.</p>



1. **Welcome words by a representative of Save Soil Movement**
2. **Introduction to set the scene** with the context and expectations from all stakeholders – done by the moderator.

Hello to all of you, I am Dr. Paul LUU, the Executive Secretary of the “4 per 1000” Initiative, an international multi-stakeholder partnership launched at COP 21 in Paris some 8 years ago, to promote soil carbon sequestration to fight Climate change and Food insecurity.

Welcome to our 90 min side-event on the “Conscious Planet – Save Soil” Pavilion, that I would like to warmly thank for allowing us, the “4 per 1000” Initiative to organize this event today. Thank you Avanti, Praveena and of course Sadguru for this collaboration running for more than one and half year.

“Assessing progress in agriculture concerning soil health”

The need for MRV [Monitoring, Reporting & Verification] tools for Policy makers, Farmers, Businesses and Civil Society to assess value chains and report to consumers.

Introduction.

Measuring and validating farmland and soil health is not an easy process for all stakeholders from farm to fork.

Policy makers have to get access to reliable data to determine their policy orientations, farmers need to have access to affordable and reliable information to confirm or change their technical choices in the fields, investors and businesses have to report on their impacts (value chains and own processes) in terms of emissions and storage (not talking about carbon credit buyers) and civil society, including consumers, must be provided with reliable and regular information to guide their lifestyle choices.

All stakeholders have interests in MRV tools, reliable and at an accessible cost.

To discuss that important question, and also to give some information and clue about the MRV tools available today, let me introduce our panelists who will participate to this roundtable. An interesting mix of scientists, technologies providers and users:

- **Dr. Beverley Henry** or **Dr. Budiman Minasny**, Co-Chair and Member of the Scientific and Technical Committee of the “4 per 1000” on the *global vision of MRV and the scientific knowledge of soil carbon sequestration mechanisms*,
- **Mr. R.K. Warriar**, Programme Director & Regional Director (BAIF Development Research Foundation) for the *NGO and farmers points of view*
- *Business point of view:*
 - o **Mrs. Sandrine Sommer** (Moët Henessy)
 - o **Mr. John Mullins** (Amarenco) - TBC

- *Technical innovations on MRV on soil health or soil carbon sequestration:*
 - Mrs. **Adrienne de Malleray** (Genesis),
 - Mr. **Bradford M. Willis** (Soil in Formation),
 - Dr. **JK Ladha** (Digital Green).

3) I will have the **pleasure to moderate this roundtable**, and each speaker will have 5 minutes to explain its positions or propositions.

Then, I will motivate a dialogue between speakers as well as an interaction with the attendance, before a conclusion and a wrap up by Dr. **Ananya Rao** (UNESCO and Heartfulness Institute).

So Let me start with you Dr. **Beverley Henry** (or Dr. **Budiman Minasny**,) Co-Chair and Member of the Scientific and Technical Committee of the "4 per 1000". *Could you give us an overview of the scientific knowledge of soil carbon sequestration mechanisms and how we can measure, assess this sequestration, so in a nutshell what are the main categories of MRV tools that are available today?*

Mr. **R.K. Warriar**, Programme Director & Regional Director (BAIF Development Research Foundation), *you are here to help us understand what are the expectations of the farmers and the civil society (NGOs) on the MRV tools? Why farmers and NGOs need such a tools, and what kind of results they can expect?*

After the scientific explanations, the expectations from farmers and civil society, let's give the floor to the entrepreneurs, the representative from Business.

- Mrs. **Sandrine Sommer**, you are working for Moët-Hennessy a well-known French company producing wines and spirits, why do you need MRV tools, and for what purposes?
- Mr. **John Mullins**, you represent Amarenco, a company that produces electricity using photovoltaics, but your company is also involved in agrivoltaics, i.e. a mixture of photovoltaics and agriculture. Can you give us some more details and explain why MRV tools are so important to you, and for what purpose?

So, now, let's consider the point of view of companies working on Technical innovations on MRV on soil health or soil carbon sequestration:

- Mrs. **Adrienne de Malleray**, you represent a Start-up called Genesis, could you tell us what Genesis does, why it does it, who your customers are and what their expectations are?
- Mr. **Bradford M. Willis**, if my information is correct, you are here to represent "Soil in Formation", which is working on the development of a revolutionary device for measuring in situ parameters that are very important for the health of soils and their carbon content. Can you tell us what this device is all about, and above all how it could change the face of soil carbon monitoring?
- Dr. **JK Ladha**, you are here today to represent the company Digital Green, which works at the interface with farmers. Can you tell us about Digital Green's activities, and what such a company can offer farmers in their day-to-day work? (Digital Green).



Series of possible questions for the second round:

1. In your opinion, what are the characteristics of a good monitoring, verification and reporting tool?
2. What risks do you associate with these tools for your activity as a producer or defender of producers' interests?
3. What do MRV tools mean to you in terms of decision support, particularly for choosing practices?
4. In the context of the voluntary carbon market, how do you, as upstream or downstream players, see the involvement of third-party operators acting as intermediaries with buyers of carbon credits using their own MRV tools?
5. Should MRV tools be based exclusively on the hard sciences (physics and chemistry), i.e. on measurements, or should they give an important or at least equivalent place to the soft sciences (social and economic), i.e. on declarations?
6. Do you see any major differences or particularities to be taken into account upstream and downstream between the situation in the North and the situation in the South?
7. What is the position of science, and in particular public research, in the field of MRV tools relating to soil organic carbon, soil health and agroecology, bearing in mind that there are still many technical, technological and scientific challenges to be met in order to have reliable measurement tools, methodologies, models and protocols that are reasonable in terms of the cost of implementation? And what about possible harmonization at international level?
8. In your opinion, what are the research fronts that still need to be cleared (if I dare say so) to meet the challenges we face in this area?
9. How does science take into account the expectations and constraints of end-users (farmers, decision-makers, companies, etc.)?
10. Do you see any major differences or particularities to be taken into account at scientific level between the situation in the North and the situation in the South?
11. Do you have any examples of public-private partnerships in this field?

I will take now some question from the audience.

4) It is now time for the **conclusion and the wrap up of this event**. I will let the floor to Dr. **Ananya Rao** from UNESCO New Delhi and Heartfulness Institute to let us know what message we could take home from this discussion.

So, thank you very much Ananya, Many thanks to all our panelists, whom I'm going to ask you to applaud warmly, and thanks again to our friends at Concious Planet - Save Soil for welcoming us to their stand for this event.

Good day to you all, and save our soils.