



Taking Action Now – how does applied research address the food and climate emergency?

BFH-HAFL's and partners' contribution to the
UN Food Systems Summit 2021

15 June 2021, 2 – 6 pm

Programme

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Keynote presentation

Dr. Lynnete M. Neufeld (GAIN, Global Alliance for Improved Nutrition)

Session 1: Nutrition, sustainable consumption patterns and food economics

Moderator: Dr. Filippo Lechthaler

- Exploration of cultural influencing factors on dietary diversity in Malagasy children
Jacqueline Ribeli (BFH-HAFL/BFH-G)
 - Nutritional status in urban populations of Kenya - first insights from the SDC Nutrition in City Ecosystems (NICE) Project
Tanja Barth-Jaeggi (Swiss TPH)
 - Identifying farm-level pathways to household food security in West Africa: A qualitative case study in Côte d'Ivoire
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Session 2: Boosting sustainable nature-positive production

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- Ecosystem services from community forests in Myanmar's frontier landscape
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 - Does organic farming offer a suitable choice to the small holders in the tropics?
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Session 3: Capacity development, resilience and equitable livelihoods

Moderator: Johannes Brunner

- Establishment of an Undergraduate BSc Course in Food Safety and Quality Management at Yezin Agricultural University, Myanmar
Elisabeth Eugster (BFH-HAFL), Johannes Brunner (BFH-HAFL)
 - Solution pathways and lessons identified during SDC and partners' English, French and Spanish Independent Food System Dialogues
Felix Hintermann (BFH-HAFL), Ueli Mauderli (SDC)
 - Knowledge for Climate: An interdisciplinary and intercultural experience of joint knowledge production
Christine Jurt (University of Zurich, BFH-HAFL); Deepak Aryal (Tribhuvan University)
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Keynote presentation: How can implementation research help us achieve “sustainable healthy diets” (GAIN, Global Alliance for Improved Nutrition)



Lynnette M. Neufeld is currently Director, Knowledge Leadership (KL) at the Global Alliance for Improved Nutrition (GAIN), where she is part of GAIN Senior Management and heads a team of 35 nutrition and food safety experts. The KL team consolidates, generates, and facilitates the use of evidence to strengthen the quality of design and implementation of GAIN’s programmes in low- and middle-income countries. Lynnette has thirty years of experience in the field of nutrition where she has worked in several technical advisory and academic positions and published over 150 peer reviewed publications and book chapters.

Session 1: Nutrition, sustainable consumption patterns and food economics

Exploration of cultural influencing factors on dietary diversity in Malagasy children

Although diverse crops are produced in Madagascar’s highland region every second child suffers from stunting - with low dietary diversity being one determinant. As minimal data is available regarding cultural factors influencing dietary diversity, it was the aim of the study to explore these factors with a mixed-method approach. The findings indicated that while carers were indeed sensitized about the importance of a varied diet for children’s development, nonetheless many products were often not available or affordable to them. The children’s diet is largely dependent on their parents’ agricultural production and on market purchases. The impact of special events on diet was family-dependent and mostly related to the financial situation of families. The findings highlighted a major influence of the culturally sensitive tradition of celebrating Famadihana, a ritual reburial ceremony of the dead, on children’s diets in a great number of families. This accentuates that cultural factors need to be considered when appraising dietary diversity.



Jacqueline Ribeli is a health promotion intern at the health and social affairs department of the canton Aargau with great interest in strategic project management work. A Bachelor’s Degree in Nutrition and Dietetics paved the way for her first assignment in Madagascar. Her curiosity about the high stunting prevalence there motivated her to add a master’s degree. The master’s thesis took her back to the nonprofit organization AiNA soa in Madagascar, where she passionately researched the cultural factors influencing dietary diversity for children with their support, work for which she won the SFIAR Award 2020. She is keen on communi-

cating complex nutrition and health topics to people in an understandable and creative way. By serving on the board of AiNA soa she continues to be involved with Madagascar.

Nutritional status in urban populations of Kenya - first insights from the SDC Nutrition in City Ecosystems (NICE) Project

Nutrition data of urban populations is scarce, although the dual burden of malnutrition is a common and growing issue (simultaneous presence of under- and over-nutrition). There is a need to appraise the problem in order to take action. The SDC Nutrition in City Ecosystems (NICE) project, starting mid-2021, has the goal to improve health and nutrition and contribute to reducing poverty for populations of 6 initial cities in Bangladesh, Kenya and Rwanda. Especially the most vulnerable – women, small children, adolescents and young adults – will be targeted. To assess the situation in the project area, a scoping study investigates nutritional status (birthweight, stunting, wasting, overweight and obesity), consumer behaviour, and access to agroecologically produced food (including minimal diet diversity for women and household diet diversity) in urban households as well as birthweight and anaemia prevalence among pregnant women. We provide a first glimpse of data collected in the secondary cities in Kenya.



Tanja Barth-Jaeggi is a trained epidemiologist (MSc) and nutritionist (PhD) with 13 years of professional experience in research related to neglected tropical diseases, human nutrition and public health. Her expertise includes the design, implementation, supervision and analysis of epidemiological field research (randomized controlled trials, interventions and surveys often focusing on infants and young children) on nutrition status and micronutrient deficiencies, as well as infectious diseases in Sub-Saharan Africa and Asia. Further, she has solid 12-year experience in the epidemiology and control of leprosy. She has interacted with national

and international research partners and worked in various parts of the world in Sub-Saharan Africa (Ethiopia, Mali, Rwanda, Senegal, South Africa, Tanzania, and Kenya) and Asia (India, Sri Lanka, and Myanmar). Activities in the Health System Support Unit focus on applied research, health system monitoring and performance assessment in low- and middle-income countries. Her work is also presented in publications in the peer-reviewed international literature, at national and international conferences and, most important, to the stakeholders and the populations concerned.

Identifying farm-level pathways to household food security in West Africa: A qualitative case study in Côte d'Ivoire

While essential interlinkage between agriculture and food security has been widely recognized, there is little evidence that analyses this relationship at farm level. Understanding these pathways is needed to identify policy levers that reduce malnutrition for small-scale farming households in rural areas of West Africa.

This research aimed to embrace livelihood complexity by identifying farm-level pathways to household food security, using the Sustainable Livelihood Framework which is a people centred and qualitative approach.

Four farm-level pathways to food security were identified: the source of food, food crop marketed, cash crops, and women empowerment. This research highlights the central role of women across all identified pathways, as they are mainly in charge of subsistence crops and use the income from selling surpluses to buy additional foods. This implies that women's responsibilities and constraints must be carefully considered to achieve food security, which in turn calls for more gender-sensitive food and health system interventions.



Lucille Gallifa is a MSc graduate in Agricultural Sciences with a focus on value chains and rural development at BFH-HAFL, where she currently works as a research assistant. Her research focusses on the thematic interface between rural development, food security, gender, and sustainable use of natural resources. As a trained agronomist she has a strong interest in using inter- and transdisciplinary approaches to answer the question of how to tackle hunger and poverty worldwide. This question is the driving force behind her motivation to contribute to the Sustainable Development

Goals (SDGs) by improving the understanding of not only sustainable agricultural production systems but also the role of institutions, governance, policy, and human behaviour.

Session 2: Boosting sustainable nature-positive production

Ecosystem services from community forests in Myanmar's frontier landscape

Tanintharyi Region in Myanmar is a frontier landscape where intact forests gradually make way for industrial oil palm concessions and private rubber plantations. To counter negative environmental impacts of these commodities, some forest areas were formally put under legal protection status by the government while others were awarded to local stakeholders to manage and use them as community forests. However, ongoing land use changes and overlapping land claims have negatively affected the way that rural communities can benefit from both forest- and agriculture-related livelihood opportunities and ecosystem services. Two CDE projects have been active in the region to better understand landscape transitions and land governance challenges to inform policymaking. As one of the outcomes, the research presented here sheds light on the potential of community forestry approaches for enhancing ecosystem services and helping local stakeholders build resilience in commodity-driven forest frontiers.



Mélanie Feurer is a Research Associate for International Forest Management at BFH-HAFL, where she specializes in tropical forest landscapes and local communities. She is currently pursuing a PhD in Geography and Sustainable Development in collaboration with the Centre for Development and Environment (CDE) at the University of Bern, working on the topic of ecosystem services in forest frontiers.

Does organic farming offer a suitable choice to the smallholders in the tropics?

By the middle of this century, half of the world's population is forecast to be living in the tropics. This will certainly pose unprecedented demand on natural resources as well as agricultural production, which in the tropics is dominated by large numbers of smallholder farmers, the plight of whom is well known. Different solutions are put forward to address the multifaceted challenge of meeting global food demands along with preserving the planetary boundaries. Organic agriculture is one of those options, that is advocated for its environmental and health benefits, while being questioned for its potential to fulfil the growing demands of the global population. This study explores the socio-economic and ecological aspects of organic production systems vis-à-vis conventional production systems, in the particular context of smallholder farming in the tropics. Taking the specific case of cotton-based farming systems in India, the findings from the Long-term Farming Systems Comparison in the tropics (SysCom) programme which is led by the Research Institute of Organic Agriculture (FiBL), Switzerland, shall be discussed.



Dr. Gurbir S. Bhullar joined HAFL as a Senior Scientist in Tropical Agroecosystems in February 2021. Before that, he worked at the Research Institute of Organic Agriculture (FiBL), Switzerland, leading the thematic area of 'Sustainable Agriculture in the Tropics'.

He has done a masters in agronomy from India and PhD from ETH, Zurich. He has published two books, one on 'Agricultural Sustainability' and another on 'Long-term Farming Systems Research'. He is the recipient of the SFIAR award 2014 for his individual work at ETH and the SFIAR team award 2019 together with his team of FiBL colleagues. He will share some of the findings from his work at FiBL.

Agripreneurship: Preparing future farmers around the globe

Every year, Nestlé trains or retrains thousands of farmers through its Farmer Connect sourcing programme, helping to spread farming practices and skills around the world. Sharing these insights will enable farmers to develop more sustainable farms that are resilient to a changing environment and evolving market demands. This is a positive step to transform the outlook for farming communities facing the challenge of aging farmers' populations. As part of the solution, Nestlé also identified tens of thousands of young people as Agripreneur. Through this programme, the next generation of young farmers will develop the knowledge and skills they need to farm resiliently. It nurtures their entrepreneurial spirit through three pillars:

- Developing farmers of the future
- Transforming farms for the future
- Creating conducive environments

Nestlé has committed to achieving net zero emissions by 2050. Meeting this vital goal will depend on scaling up regenerative agriculture by refining and growing its Agripreneurship programme to achieve positive change in agricultural production systems.



Hans Jöhr is Corporate Head of Agriculture at Nestlé. As such, he is responsible for providing technical and strategic leadership in the group's worldwide agricultural raw material supply chain. This includes agricultural policy, raw material quality control and R&D where Nestlé buys its agricultural materials at farm level, called "The Farmer Connect" procurement programme.

Mr Jöhr is currently director of the Board of IFCN (Dairy Related Research Network), Chairman of the Advisory Council for the Business Incubator Platform of IITA (International Institute of

Tropical Agriculture) and member of the Board of Trustees of SwissContact, a Swiss business-oriented foundation for international development cooperation.

Mr Jöhr is the co-founder and honorary president of the SAI Platform (Sustainable Agriculture Initiative of the Food Industry) www.saiplatform.org

Past assignments include: Director of Board of CATIE (Tropical Agricultural Research and Higher Education Center) in Costa Rica, Member of the IITA Board of Trustees (International Institute of Tropical Agriculture), Member of the External Advisory Board of the ADM Institute for the Prevention of Postharvest Loss, Member of IPC (Intl. Policy Council on Agriculture Food and Trade), Member of the Comité National Suisse de la FAO, President of IFAMA (Intl. Food and Agribusiness Management Association), President of the Swiss-Brazilian Chamber of Commerce in Sao Paulo.

Prior to joining Nestlé, Mr Joehr was CEO of a consulting and management company in Brazil engaged in agribusiness and forestry. He has consulted in over 50 countries and is the author of more than 30 publications in Brazilian and international newspapers.

Session 3: Capacity development, resilience and equitable livelihoods

Establishment of an Undergraduate BSc Course in Food Safety and Quality Management at Yezin Agricultural University, Myanmar

Within the scope of the Sustainable Agricultural Development and Food Safety Initiative, GIZ assigned HAFL to support the process of strengthening the capacity of Yezin Agricultural University (YAU) to deliver university-level education and training in the fields of food safety and quality management. In close collaboration with the teaching staff at YAU, the existing programme was revised, networked and important topics in food safety and quality management included. In a participative process, the future competencies of graduates have been described and translated into methodologically and scientifically sound lecture content. During this process, remarkable knowledge and skill gaps to teach the necessary food science, food safety and quality management content in an appropriate manner and required by international food law and markets were detected. Therefore, HAFL delivered reference works, ideas for practical work in the laboratory and in the pilot plant. Textbooks have been conjointly developed, enriched with suggestions about competence-oriented teaching and learning.



Elisabeth Eugster, Dr. sc. techn. ETHZ, dipl. LM-Ing. ETHZ, is head of the Food Science & Management department at BFH-HAFL and lecturer for food microbiology, food safety, quality management and bioconversion in both bachelor and master programmes. Food engineering studies at ETHZ, certificate for teaching at universities, PhD in technical sciences at ETHZ. Expert at Innosuisse, the funding agency for innovation in Switzerland.

Research projects and publications on: food safety and quality management, microbial biodiversity and its use for fermented food production, protective cultures and bioconversion, metabo-

lism of specific bacteria such as pediococci, cheese technology.



Johannes Brunner, agronomist MSc ETH is a senior research associate of the extension and vocational education group at BFH-HAFL with designated competencies in teaching, advising, facilitation and knowledge sharing. Broad experience in teaching, methodological-didactic education and in-service training of teachers and advisors, professional expertise in organic farming and successional agroforestry systems. Consultant in VET reform and higher education projects of international cooperation in Armenia, Myanmar, Ukraine, Romania, Bolivia and Portugal. He lives in Portugal and Switzerland.

Solution pathways and lessons identified during SDC and partners' English, French and Spanish Independent Food System Dialogues

SDC organised a series of Independent Food System Dialogues with stakeholders in SDC and partner lead programmes intervening in food systems in English, French and Spanish for around 100 participants joining the Dialogues in each of the languages, representing all relevant stakeholder groups participating in Food Systems. Each event lasted 2.5 hours and included thematic inputs and discussions in 12 break-out groups of at most 10 people to discuss visions on how food systems will function in 2030. These ambitious projections of the future provoked participants to think beyond the current situation and to imagine something that is altogether better. The results of these dialogues will feed into the UN Food Systems Summit and Pre-Summit.

Each of the break-out groups in the three dialogue series in English, French and Spanish was to park debated issues and bottlenecks and to identify solution pathways – among them possibly “game changing” solutions for food systems related to 1) Fair prices; 2) Strong social movements and networks; 3) Sustainable Production; 4) Conducive policies; 5) Nutrition awareness; 6) Healthy school meals; 7) Access to Land; 8) Fair Trade Policies; 9) Reliable data & certification; 10) Conducive research partnerships; 11) Agroecologic farming; and 12) Intact natural resources.

The presentation will include some of the most interesting solution pathways and some of the lessons learnt from these dialogues. It will also offer an outlook on how these solutions can be encapsulated in the context of international cooperation in the next 10 years and how the various issues debated can be solved.



Ueli Mauderli is the Policy Advisor and network facilitator (Focal Point) for the topics Agriculture and Food Security (A+FS) in the Global Programme Food Security (GPFS) and in the SDC Network A+FS.

In his previous jobs he was in charge of SDC's rural employment and income portfolio (value chains, youth employment and farmer advocacy) in the Embassy of Switzerland in Tanzania and gained experience in networking, facilitation and innovation as the Policy Advisor/Focal Point of the SDC Climate change and environment network.



Felix Hinterman is a Scientific Collaborator at Bern University of Applied Sciences BFH, School of Agricultural, Forest and Food Sciences (HAFL) with over 20 years of experience in information & communication projects in an international context.

Academic education: History, Geography & State Law at University of Bern and at Queen Mary and Westfield College in London

Further education: Web Publishing and Marketing Communication

Professional experience: BFH-HAFL, Swiss Federal Office for the Environment, private mandates

Knowledge for Climate: An interdisciplinary and intercultural experience of joint knowledge production

To tackle climate change, various sources of knowledge and diverse perspectives are needed for producing actionable and solution-oriented outcomes. However, education and research are still often shaped by strong disciplinary boundaries.

In the “Knowledge for Climate” project, interdisciplinary teams in six countries of three continents addressed the question of jointly producing case studies for teaching the interwoven topic of climate change adaptation at university level. The aim was twofold: 1) Teaching climate change adaptation embracing diverse knowledge for effective adaptation strategies and 2) teaching joint knowledge production for the development of coping strategies. Among the groups a concept of joint work across disciplines and countries was developed, knowledge exchanged and new knowledge produced. The process was highly demanding and brought up stimulating results as will be shown from the perspective of the Nepal team and its interesting case.



Professor Deepak Aryal is recognized meteorologist, air pollution expert and climate specialist. He received his M.Sc. in Atmospheric Science from Nagoya University, Japan and Ph.D. in Meteorology from Tribhuvan University. He is a faculty member at Central Department of Hydrology and Meteorology (CDHM), Tribhuvan University for 26 years. Five years ago he became head of department. CDHM is the only institute which offers graduate (M.Sc. and Ph.D.) courses in Nepal. He is the President of Society of Hydrologists and Meteorologists of Nepal (SOHAM-Nepal). He has extensive experience in meteorological, air pollution and aerosol field campaigning in Japan and Nepal. He is well versed in meteorological instruments and gas and aerosol sampling equipment. He has experience of aircraft instrumentation with respect to weather sensors and air pollution. Recently he is working on convective systems in monsoon regions. He has written many national and international publications and presented his work at numerous international conferences including IGAC, AGU, JpGU etc.



Christine Jurt, social anthropologist, works at the School of Agricultural, Forest and Food Sciences at the Bern University of Applied Sciences and is a research associate of the Eclim Group at the department of Geography at the University of Zurich. Christine Jurt is a member of the Network for Interdisciplinary Climate Research of UZH and ETH. Her work focuses mainly on the exchange and co-production of knowledge in the field of climate change adaptation, risk perceptions and natural hazards with a strong focus on agriculture and rural development. She undertook extensive fieldwork in the Swiss, Austrian and Italian Alps as well as in Bolivia and Peru.