Switzerland

Koronivia joint work on agriculture (KJWA)

Switzerland is pleased to submit its views on the subject of the workshop **2(f) on "Socioeconomic and food security dimensions of climate change in the agricultural sector"**, for consideration at the fifty-second session of the Subsidiary Body for Scientific and Technological Advice (SBSTA) and Subsidiary Body for Implementation (SBI) (June 2020), in response to the invitation of the SBSTA and SBI in the conclusions of their forty-eighth session (FCCC/SBI/2018/9, paragraph 43 and FCCC/SBSTA/2018/4, paragraph 64).

Sustainable food systems and sustainable diets in the context of climate change

Today, agriculture, including forestry, fisheries and livestock production, generate around a fifth of the world's greenhouse gas emissions.[1] Furthermore, if emissions associated with pre- and post-production activities in the global food system[2] are included, these are estimated to amount 21–37 percent of total net anthropogenic GHG emissions.[3] At the same time, around 14 percent of food produced is considered lost,[4] and 25–30 percent of it is more broadly lost *or* wasted[5]. Agriculture is the largest user and a major polluter of water, accounting for 70 percent of all water withdrawals globally.[6] In addition, inappropriate agricultural practices have a negative impact on biodiversity, amongst others through changes in land and water management.[7] More than 820 million people in the world suffer from hunger and over 2 billion do not have regular access to safe, nutritious and sufficient food – including 8 percent of the population in Northern America and Europe – while at the same time the prevalence of overweight and obesity is increasing in all regions.[8] In 2015, 10 percent of the world's population lived at or below USD 1.90 a day,[9] with extreme poverty recognised as being one of the underlying causes of food insecurity and malnutrition[10]. The expected population growth will increase the demand for food, especially for more resource-intensive products of animal origin.

To address these global challenges in the context of climate change discussions, we need to recognise their interlinked and multidimensional nature, and to look beyond agriculture, at the entire *food system*. In other words, these challenges should be addressed through a holistic approach, taking into account "all the elements (environment, people, inputs, processes,

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[1] "Climate Change," FAO, last consulted on 18 March 2020, http://www.fao.org/climate-change/our-work/what-we-do/en/.
[2] A definition of *food systems* and *sustainable food systems* is provided later in the text.
[3] *Medium confidence*. These emissions data are not directly comparable to the national inventories prepared according to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. IPCC, "Summary for Policymakers," in *Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems*, P.R. Shukla, J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H.- O. Pörtner, D. C. Roberts, P. Zhai, R. Slade, S. Connors, R. van Diemen, M. Ferrat, E. Haughey, S. Luz, S. Neogi, M. Pathak, J. Petzold, J. Portugal Pereira, P. Vyas, E. Huntley, K. Kissick, M. Belkacemi, J. Malley (eds.), in press (2019), 10.
[4] FAO, *The State of Food and Agriculture 2019: Moving forward on food loss and waste reduction* (Rome: 2019), 1-19. It must be noted that loss estimates are provided from the post-harvest stage up to, but excluding, the retail stage.
[5] *Medium confidence*. IPCC, *Climate Change and Land*, 7 and 24.
[6] "Water and agriculture," OECD, last consulted on 25 March 2020, https://www.oecd.org/agriculture/topics/water-and-agriculture/; "Water in Agriculture," World Bank, last updated on 11 February 2020, https://www.worldbank.org/en/topic/water-in-agriculture.
[7] FAO, *The State of the World's Biodiversity for Food and Agriculture*, J. Bélanger and D. Pilling (eds.), FAO Commission on Genetic Resources for Food and Agriculture Assessments (Rome: 2019), 65-111.
[8] FAO, IFAD, UNICEF, WFP and WHO, *The State of Food Security and Nutrition in the World 2019: Safeguarding against economic slowdowns and downturns* (Rome: FAO, 2019), 3-42.
[9] "Poverty," The World Bank, last updated on 2 October 2019, https://www.worldbank.org/en/topic/poverty/overview.
[10] FAO, IFAD, UNICEF, WFP and WHO, *The State of Food Security and Nutrition*, 79-102.

infrastructures, institutions, etc.) and activities that relate to the production, processing, distribution, preparation and consumption of food and the outputs of these activities, including socio-economic and environmental outcomes"[11]. Switzerland considers agroecology as one major pathway towards sustainable food systems.

A food systems approach considers food systems in their entirety, taking into account the interconnections and trade-offs among the different elements of food systems, as well as their diverse actors, activities, drivers and outcomes. It seeks to simultaneously optimise societal outcomes across environmental, social (including health), and economic dimensions. The aim of adopting such a food systems approach is to promote more *sustainable food systems*, which deliver "food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised"[12]. This means that sustainable food systems are profitable throughout, generating income and livelihoods (economic dimension), have broad-based benefits for society, such as health and nutrition (social dimension), and have a positive or neutral impact on the natural environment, within planetary boundaries (environmental dimension). To be sustainable, food systems should also be resilient to external shocks, such as financial crises or extreme weather events caused by climate change. In a sustainable food system, all people should eat sufficient, safe, healthy and nutritious diets, produced and consumed within planetary boundaries, while producers are able to make decent livelihoods.

Considering the above, it is clear that our food systems are not sustainable and that they need urgent transformation. In order for them to provide all people with adequate food within planetary boundaries, consumption and production patterns must become more efficient and less polluting. Through this transformation towards more sustainability, food systems will contribute to address current challenges such as climate change, water scarcity, biodiversity loss, soil degradation, malnutrition and poverty. In this perspective, consumers do play a key role in adopting not only healthier, but also more *sustainable diets* "with low environmental impacts"[13] and low carbon footprint, "which contribute to food and nutrition security and to healthy life for present and future generations"[14], and which are "protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimising natural and human resources"[15].

To this purpose, cross-sectorial food systems policies need to be jointly developed and simultaneously implemented across different ministries, in a whole-of-government perspective, and with the inclusive involvement of all relevant actors from different stakeholder groups. Policy coherence can only be achieved through a holistic lens and a collaborative approach to policy-making, including the effective involvement of those societal groups that are most vulnerable to the negative impacts of our food systems. Policy development and implementation must include key responsibility-bearing actors along and beyond the food value chains and other sub-systems, such as those involved in processing, distribution and preparation activities.

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[11] HLPE, *Food losses and waste in the context of sustainable food systems: A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security* (Rome: 2014), 12.
[12] *Idem*
[13] FAO and Bioversity International, *Sustainable Diets and Biodiversity: Directions and Solutions for Policy, Research and Action. Proceedings of the International Scientific Symposium Biodiversity and Sustainable Diets United Against Hunger*, held at FAO Headquarters, Rome, from 3 to 5 November 2010 (Rome: 2012), 7.
[14] *Idem*
[15] *Idem*

Switzerland's efforts towards understanding and implementing more sustainable food systems

Switzerland adopted by popular vote a new Constitutional Article on "Food Security" in September 2017, the Article 104*a*. This amendment complements the original article on "Agriculture" by incorporating the four core dimensions of food security – availability, access, utilisation and stability – and translating them into a national context. Furthermore, the Article provides an opportunity to approach food related policies in a more systemic manner, and considers both present and future situations. Notably, it requests the Swiss Government to create a number of conditions, including for: safeguarding the basis for agricultural production, and agricultural land in particular; food production that is adapted to local conditions and which uses natural resources efficiently; an agriculture and food sector that responds to market requirements; cross-border trade relations that contribute to the sustainable development of the agriculture and food sector; and using food in a way that conserves natural resources.

Based on this Article and the obligations under Agenda 2030, Switzerland endeavours to integrate more measures (exchange of information, dialogue, reporting) within the framework of free trade agreements with third countries that are intended to contribute to sustainable development in the areas of agriculture, food systems and trade. In the same line, the Swiss Federal Administration is considering processes on how to engage in dialogue the major actors of the food system at national level, including representatives from the public administration, private sector and civil society, in order to identify and improve areas of common action and to promote more sustainable consumption and production patterns in the agri-food sector.

Since 2015, the Swiss government runs a National Research Programme on healthy nutrition and sustainable food production. It develops scientific bases and practical approaches to promote public health through diet and at the same time to make the food production chain more sustainable.

To understand in greater detail what an ecologically and health-wise ideal diet would be in the Swiss context, the Federal Office for Agriculture of Switzerland (FOAG) commissioned a respective study that was published in 2017. According to the study[16], to achieve an eco-friendly and healthy diet, the average composition of the Swiss diet would have to change substantially, involving on the one hand a significant increase in the consumption of grains or potatoes, nuts, and fruit or vegetables, as well as the maintenance of dairy consumption in a predominantly unprocessed form; and on the other hand, amongst others a reduction in meat and processed dairy products consumption. At the same time, production processes would need to be optimised, especially in terms of the feeding of cattle, who would essentially exploit the grassland yields. Concentrates would almost cease to be imported, and would only be cultivated domestically on a small scale. An additional significant reduction in environmental impacts would be possible if Switzerland managed to actually avoid all avoidable food losses. All in all, the analysis shows that improvements are needed to achieve a resource-conserving food and feed production system, and that a great potential for improvement exists.[17]

Amongst other international initiatives, Switzerland co-leads since 2015 the One Planet (10YFP[18]) Sustainable Food Systems (SFS) Programme, which is a global multi-stakeholder partnership with the goal to accelerate the shift towards sustainable food systems, including

[16] A. Zimmermann et al., "Umwelt- und ressourcenschonende Ernährung: Detaillierte Analyse für die Schweiz," *Agroscope Science* 55 (2017).
[17] The conclusions of this Swiss, national study are in line with findings from other reports at international level, such as: A. Muller et al., "Strategies for feeding the world more sustainably with organic agriculture," *Nature Communications* 8, 1290 (2017).
[18] 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns. Switzerland has taken on a leading strategic role as a Board member of all the six programmes of the 10YFP, of which the SFS Programme is one of them.

by promoting a holistic, system-based approach towards more integrated and inclusive policy-making. Its initiatives focus on the areas of sustainable diets, sustainable value chains, resilient food production systems, and food losses and waste reduction. In relation to this last topic, for instance, efforts have been pursued to take stock of the current state of knowledge and on-going methodological activities, share approaches, and promote harmonisation of food losses and waste measurement around SDG 12.3. Furthermore, a Collaborative Framework for Food Systems Transformation was developed in the context of the SFS Programme, which provides an approach for collaborative policymaking and governance improvement, and includes a broad range of actions for better assessment, design, implementation and monitoring of sustainable food systems policies and programmes by policymakers and stakeholders.[19] The SFS Programme currently has 180 members.[20]

The 2021 UN Food Systems Summit

Switzerland welcomes and actively supports the 2021 UN Food Systems Summit and its preparatory process as an accelerator for the transformation of global food systems towards more sustainability.

As a first contribution to the process for the Summit, on 22 January 2020 during the annual meeting of the World Economic Forum (WEF) in Davos, Switzerland organised a High Level Dialogue on "Investing in Food Systems Transformation – on the road to the 2021 UN Summit", with over 80 leaders from all relevant stakeholder groups, among them Ms. Kalibata, Special Envoy of the UN Secretary General for the Summit, and Mr. Dongyu, Director General of FAO. The event underlined that the development of more sustainable food systems requires strong cross-sectorial dialogue, collaboration, and inclusive processes ensuring full participation of all actors, in particular farmers, women and youth entrepreneurs. It also requires a shift in how we produce and do business and – hand in hand with this – in how we invest, as well as re-orienting and better aligning existing sources of capital with what is needed on the ground, and mobilising additional investments through more innovative approaches.

Conclusion

Apprehended through a holistic approach, food systems incorporate not only the activities of producing, processing, trading, retailing, preparing and consuming food, but also the environment and natural resources which they depend upon to function (land, water, biodiversity), as well as social norms and cultures (for instance, dietary preferences) in which those activities are embedded. Different types of institutions, regulations, subsidies and laws influence everyday performance and outcomes of food systems.

In order to address the current food and climate change related challenges faced globally – emissions of greenhouse gas, food losses and waste, sustainable use and management of natural resources, loss of biodiversity, changes in land and water management, hunger and malnutrition, poverty, and a growing demand for animal products – food systems need to be transformed, with the agri-food sector becoming a part of the solution.[21] To ensure adequate

[19] UN Environment Programme, *Collaborative Framework for Food Systems Transformation: A multi-stakeholder pathway for sustainable food systems* (2019).
[20] Further information on the SFS Programme is available at https://www.oneplanetnetwork.org/sustainable-food-system
[21] "Options include, but are not limited to, sustainable food production, improved and sustainable forest management, soil organic carbon management, ecosystem conservation and land restoration, reduced deforestation and degradation, and reduced food loss and waste (*high confidence*)". IPCC, *Climate Change and Land*, 20; "Response options throughout the food system, from production to consumption, including food loss and waste, can be deployed and scaled up to advance adaptation and mitigation (*high confidence*). The total technical mitigation potential from crop and livestock activities, and agroforestry is estimated as 2.3 –

food for all within the earth's ecological boundaries, consumers are key to make food systems more sustainable through adopting more sustainable diets, which are not only healthy, but also fully consider the environmental and socio-economic outcomes of food consumption.[22]

Today's global food system is unsustainable, exclusive and fails to enable healthy food choices for a large part of the global population. Business as usual pathways and upscaling of current unsustainable practices could ultimately threaten food security in an unprecedented way at a global scale.

Switzerland recognises the multidimensional, intertwined and complex interactions between food, human and planetary health. It advocates for a comprehensive understanding and approach to contribute to the transformation of food systems in view of the Agenda 2030 and to achieve food security and nutrition in its four dimensions. Switzerland is committed to participate in the transformation of food systems towards more sustainability, in their environmental, economic and social dimensions. It supports, both domestically and abroad, the development and adoption of pathways towards sustainable food systems, such as agroecology.

Following the adoption of a Constitutional Article on "Food Security", Switzerland promotes cross-border trade relations that contribute to the sustainable development of the agricultural and food sectors, and is considering processes on how to engage in dialogue the major actors of the food system at national level to promote more sustainable consumption and production patterns in the agri-food sector. A very important basis for moving forward with the transformation of the food system is scientific understanding of what an ecologically and health-wise ideal diet would be. Finally, through its efforts both at international and national level, Switzerland also seeks to actively support the UN 2021 Food Systems Summit.

9.6 GtCO2eq yr–1 by 2050 (*medium confidence*)". IPCC, *Climate Change and Land*, 23; "Actions can be taken in the near-term, based on existing knowledge, to address desertification, land degradation and food security while supporting longer-term responses that enable adaptation and mitigation to climate change. These include actions to build individual and institutional capacity, accelerate knowledge transfer, enhance technology transfer and deployment, enable financial mechanisms, implement early warning systems, undertake risk management and address gaps in implementation and upscaling (*high confidence*)". IPCC, *Climate Change and Land*, 35.

[22] "The total technical mitigation potential of dietary changes is estimated as 0.7 – 8 GtCO2eq yr–1 by 2050 (*medium confidence*)". IPCC, *Climate Change and Land*, 23; "Policies that operate across the food system, including those that reduce food loss and waste and influence dietary choices, enable more sustainable land-use management, enhanced food security and low emissions trajectories (*high confidence*). Such policies can contribute to climate change adaptation and mitigation, reduce land degradation, desertification and poverty as well as improve public health (*high confidence*)". IPCC, *Climate Change and Land*, 29.