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Decision CP.23
Koronivia joint work on agriculture
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At COP23, Decision–CP/23 invited parties and observers to submit their views on elements to be included in the joint SBSTA-SBI work that is now known as the "Koronivia Joint Work on Agriculture" (KJWA). The Institute for Agriculture and Trade Policy (IATP) thanks the SBSTA-SBI for the opportunity to comment on issues related to agriculture for consideration at the subsidiary bodies session in April-May 2018. IATP is a 30-year-old non-profit organization based in Minnesota, USA with offices in Washington, D.C. and Berlin, Germany. We have been researching the science and policy implications of climate change on agriculture and rural communities for more than a decade, and have actively participated in multiple Conference of the Parties, including most recently in Paris in 2016 and Bonn in 2017.

The task before the KJWA is formidable: "to jointly address issues related to agriculture…taking into consideration the vulnerabilities of agriculture to climate change and approaches addressing food security." Our comments focus on the modalities and participation in the five in-session workshops, particularly the critical need to recognize the multifunctionality of agriculture within the climate context; some critical elements for the KJWA to consider; the need to empower community and local-level adaptation strategies, particularly through agroecology; and the need to address the climate impact of the meat and dairy industry.

Modalities and participation in upcoming workshops

Within the climate context, agriculture is distinct from sectors like the fossil fuel or transportation sector in its multifunctionality. We require food for health, but it is also intricately linked to rural livelihoods, the management of land, production of non-food products, as well as the central to cultures around the world. For these reasons countries have a complex set of policy frameworks – from national and local level food and farm policies, to international trade agreements – that govern agricultural production. In addition, existing international frameworks at the UN Committee on Food Security and the UN Convention on Biological Diversity have done important work that is highly relevant to the KJWA. To best serve the Conference of the Parties, the KJWA must recognize the multiple dimensions of agriculture, seek coherence with other relevant international frameworks, and not narrowly limit its perspective exclusively to greenhouse gas emissions. Workshop participants should have expertise in farming and particularly agroecology, rural sociology, rural economics, natural resource policy, food and farm policy, trade policy, human rights and both local and global agricultural markets. Ultimately it will be farmers on the ground who will respond to the climate change challenge, their voices, experience and expertise must play a central role in the KJWA.

We also recommend the establishment of a set of clear guidelines and reporting on potential financial conflicts-of-interest as part of the KJWA. Potential conflicts should be reported for

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workshop participants and the SBSTA-SBI itself. Global agricultural production is dominated by global corporations with enormous political and economic power. Like the fossil fuel industry, there are major financial implications for these companies in the direction of future climate policy. Representatives of these companies, as well as their funded researchers and organizations, should be required **to fully disclose those financial interests in order to retain the integrity of the KJWA**.

Some critical elements for the KJWA

1) **Food Security** - It is notable that KJWA recognizes the critical need to view climate change within the context of food security. The internationally-recognized definition of food security was adopted at the FAO World Food Summit in 1996, and should provide the basis for the KJWA: "Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life." Also helpful are the Four Pillars of Food security as defined by the FAO: 1) Physical availability of food; 2) Economic and physical access to food; 3) Sanitary and nutritional quality of food; 4) Stability of the above three dimensions of food security. The integration of food security within responses to climate change should be fundamental for the KJWA.
2) **Agroecology** – Agroecology is increasingly recognized by the scientific as well as policy communities as an effective and essential response to climate change. The Food and Agriculture Organization is hosting its second International Symposium on Agroecology the first week in April, with the theme "Scaling Up Agroecology to Meet the SDGs."[1] The FAO states, "There is a broad consensus that agroecology can be instrumental in achieving a wide range of policy, environmental and food security targets, from sustainability related goals to the reduction of rural poverty." Agroecology applies ecological concepts and principles to optimize interactions between plants, trees, animals, humans and the environment. It places social issues and political empowerment at the center of solutions for a sustainable and fair food system. At a series of regional dialogues on agroecology hosted by the FAO in 2015, researchers, farmers and community leaders reported on the contribution of agroecology to enhance "adaptation and resilience to climate change." The FAO's Agroecology Knowledge Hub includes the latest science, case studies and policies related to agroecology and should be a primary source for the KJWA.[2] The community-specific, bottom-up approach that is at the heart of agroecology is particularly well suited for responding to climate change. Locally-relevant responses based on regional landscapes and ecosystems and led by farmers will be essential to building long-lasting climate resilience.
3) **Soil health and fertility, not offsets** – The clear challenge for farmers around the world is adapting to a rapidly changing climate. Enhancing soil health and fertility is an established outcome of agroecological practices and essential for climate adaptation. While practices that build soil health can sequester carbon, the science on how much, for how long, and at what rate are less certain. The impermanence of soil carbon sequestration is also a concern. Much of the carbon accounting related to soil

[1] United Nations Food and Agriculture Organization. Second International Symposium on Agroecology. http://www.fao.org/about/meetings/second-international-agroecology-symposium/en/
[2] United Nations Food and Agriculture Organization. Agroecology Knowledge Hub. http://www.fao.org/agroecology/en/

sequestration is linked to a carbon market framework to create offsets for fossil fuel emissions. Not only does this approach allow GHG emitters to buy their way out of reducing pollution, it also ignores agriculture's multiple functions, and can create perverse incentives that are not consistent with climate resilience.

4) **Trade Reform** – International trade rules set at the World Trade Organization, and in regional and bi-lateral trade agreements play a major role in global agricultural production. Trade rules set in these agreements effect food systems in many ways including: domestic farm policy, food safety, food procurement, export subsidies, investment rules (including Investor State Dispute System provisions), environmental protections, and intellectual property rights (including for seeds and new agricultural technologies). Currently, trade rules are considered hard law with strong enforcement mechanisms that can override governments' efforts to address climate change. Changes in agricultural systems to both reduce greenhouse gas emissions and build greater resilience to climate change will require reforms in current trade rules that give governments greater policy space. Important discussions are beginning to take place around energy, climate change and trade. Those discussions must integrate agrarian and climate change goals that benefit rural communities and get us on a path to 1.5 degrees celsius.

Focus on the Industrial Meat and Dairy Industry

The global food system accounts for up to 29 percent of today's global greenhouse gas (GHG) emissions,[3] with meat and dairy responsible for a significant percentage of those emissions, according to the FAO. The current growth of the global meat and dairy industry comes largely from the expansion of the industrial form of animal production, which is responsible for massive GHG emissions from fossil fuels, fertilizers, manure and large-scale deforestation and land degradation. This industrial system of animal production generates numerous other impacts[4] including environmental pollution, exploitation of workers, the loss of family farms, and the spread of new health risks like antibiotic resistance[5] and avian flu[6].

Last year, IATP and GRAIN issued a report quantifying emissions from the major global meat and dairy companies for the first time. We used GHG emission calculation methodologies and the FAO's Global Livestock Environmental Assessment Model (GLEAM). GLEAM includes regionalized slaughter weights, carcass dressing percentages, and GHG emission intensity values on a per-tonne-of-product basis. It includes all emissions from the production of livestock products. For example, for beef the GLEAM methodology captures all emissions from production and processing, right up to the retail level. These include emissions from: the manufacture of farm inputs such as nitrogen fertilizer; the production of livestock feed, including emissions from on-farm energy and input use; the raising of livestock including enteric methane from animals and methane and nitrous oxide from manure; transport to processing facilities; livestock product processing, including all emissions from company operations and purchased electricity; and transport to retail.

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[3] Gilbert, Natasha. "One-third of our Greenhouse Gas Emissions come from agriculture." *Nature*. October 31, 2012. https://www.nature.com/news/one-third-of-our-greenhouse-gas-emissions-come-from-agriculture-1.11708

[4] Pew Commission on Industrial Farm Animal Production. 2008. http://www.pcifapia.org/

[5] World Health Organization. *WHO Guidelines on Use of Medically Important Antimicrobials in Food-Producing Animals*. November 7, 2017. http://www.who.int/foodsafety/areas_work/antimicrobial-resistance/cia_guidelines/en/

[6] Wallace, Robert. *Big Farms Make Big Flu: Dispatches on Influenza, Agribusiness and the Nature of Science*. NYU Press. 2016.

The GLEAM methodology needs to be continually updated with the latest science, but it provides an important insight into the many ways in which the industrial system of animal production affects the climate. In the case of agriculture, to properly capture and quantify all emissions from a given food product or corporation it is critical to count all emissions, including those categorized as: Scope 1: direct emissions from company-owned buildings, processing plants, and machinery, perhaps from the combustion of natural gas or coal to provide heat to process products; Scope 2: off-site emissions from the generation of electricity; and **Scope 3: upstream and downstream "product chain" emissions, such as on-farm emissions from livestock or their manure, from energy used on the farm in machinery, from the production of livestock feed, from the production of the farm inputs used to produce that feed (e.g., nitrogen fertilizer), and from land-use changes triggered by the expansion of livestock grazing and feed production.**

Our research found that under a business-as-usual scenario, with production increasing according to FAO projections, emissions from meat and dairy will eat up 80 percent of the world's entire available carbon budget by 2050. Most of the emissions from meat and dairy production come from a small number of countries or regions. The biggest producers are the US/Canada, the EU, Australia/New Zealand, Brazil/Argentina and China. These are the countries where the most significant reductions in industrial meat and dairy production must take place. Not coincidentally, these are also the countries where the world's largest meat and dairy companies have their operations.

Our research found that the greenhouse gas emissions from the biggest meat and dairy companies in 2016 was equivalent to the total emissions of many OECD countries, such as Germany or France. The top five meat and dairy companies are responsible for emitting more combined greenhouse gases (GHGs) than Exxon, or Shell, or BP.[7] The KJWA must address the enormous emissions from this industry if it is to fulfill its mandate.

An emerging issue in calculating the GHGs within the industrial meat sector is the issue of "emissions intensity" versus "emissions reductions." To ensure the effectiveness of the KJWA, the Paris Agreement and the UNFCCC, Parties must be guided by the objective of absolute (total) emission reductions. Reduced "intensity" or increased "efficiency" per kilo of food is not an acceptable objective by itself, as this can often create perverse incentives to increase production, and increase total emissions.

Emissions intensity targets do not constrain the overall growth of company emissions, sales, processing volumes, revenues, or profits. In other words, as long as the company reduces the emissions it generates on 1 kilo or dollar of chicken, pork or beef, it can continue unlimited levels of production.

Currently, beef, pork, poultry, and dairy processing companies use a variety of GHG accounting and reporting protocols—some of which are international but others appear to be national or regional or simply developed in-house. Emission estimates are rarely comparable between

[7] The full dataset for beef, pork, poultry, and milk companies is available online at: https://www.iatp.org/supersized-climate-footprint

companies or, within one company, from one year to the next, due to changing data collection or accounting methods. Most concerning, there is often no independent verification; in many cases we must accept company numbers on faith.

To make emissions estimates accurate and emission-reduction targets effective—for meat and dairy companies and *all* corporations and major emitters—the world's governments will need to collaborate to create standardized international accounting protocols, mandatory reporting requirements, third-party verification systems, and standardized emission-reduction goals for 2025, 2030, and beyond. The National Academy of Sciences recently published a report on tracking methane emissions in the U.S. and made a series of recommendations to improve such tracking at the national government level.[8] In the absence of improved measures, voluntary corporate efforts will be completely inadequate, perhaps worse than nothing—giving the reassuring illusion that companies are monitoring and reducing emissions when in fact emission volumes are poorly understood and rapidly rising.

We thank the SBSTA-SBI for the opportunity to comment on its work. We are happy to provide additional information for any part of this comment. Please contact Ben Lilliston (blilliston@iatp.org) with any questions or comments. We look forward to following the KJWA through its report in 2020.

[8] National Academies of Sciences, Engineering, and Medicine. 2018. *Improving Characterization of Anthropogenic Methane Emissions in the United States*. Washington, DC: The National Academies Press. https://doi.org/10.17226/24987.