

Background paper:

Results of the KJWA – Options for outcomes to be included in the report back to the UNFCCC and further use

Cristina Urrutia, Anne Siemons (Öko-Institut)

October 2021

Disclaimer: This background paper was written as part of the REFOPLAN research project “Ambitious GHG mitigation in the agricultural sector: Analysis of sustainable potential in selected focus countries” (Ressortforschungsplan of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety Project No. 3720415040) supervised by the German Environment Agency. The responsibility for the content of this publication lies with the authors. The content of this publication does not necessarily reflect the views of the German Government.

Contact:

Cristina Urrutia

Executive Assistant

Executive Board

Phone: +49 30 405085-344

c.urrutia@oeko.de

Anne Siemons

Senior Researcher

Energy & Climate

Phone: +49 761 45295 290

a.siemons@oeko.de

Summary

This paper provides an overview of the outcomes of each of the six workshops that have been carried out under the Koronivia Joint Work on Agriculture (KJWA) and identifies potential elements that could be included as outcomes of the KJWA in the report of the SBs to the COP. The potential of each of the identified elements to generate consensus is evaluated based on the content of UNFCCC documents and the authors' expert judgment.

It was possible to identify potential substantive elements under each topic of the KJWA roadmap which could generate consensus. However, few of these elements are supported by agreed language. Several of the substantive elements give indication as to what could be themes to be discussed by the KJWA in the future. Key issues that will likely be included in the outcomes of the KJWA include food security and food sovereignty, with a possible reference to SDG 2 (zero hunger), the important role of farmers, especially smallholder farmers, for action in agriculture, inclusion or consideration of women, youth, and indigenous peoples, the co-benefits resulting from adaptation and mitigation action in agriculture, e.g. for biodiversity, and the creation of enabling environments for the implementation of action in agriculture.

The need for increased means of implementation (MoI) and the mobilisation of resources for improved implementation of climate action in agriculture is a general theme across all KJWA workshops and is of special relevance to developing countries. As such it will likely feature in the outcomes of the KJWA.

The need for better data, methodologies, models and decision-making tools was also identified as a cross-cutting element to all topics and should thus be addressed in future work of the KJWA. In more general terms it will be important to shape the KJWA process in a way that allows integration with national processes related to NDCs and adaptation planning. The KJWA should also be flexible and serve as a nexus to the wide range of initiatives and efforts working on agriculture and climate change beyond the UNFCCC.

A continuation of the KJWA will require agreement by Parties on the modalities of future work. Diverging views on this issue indicate that further discussions will be needed at COP26.

Table of Contents

Summary	2
1 Introduction and aim of the paper	4
2 Methodology	5
3 Overview of possible outcomes from the KJWA workshops	7
3.1 2(a): Modalities for implementation of the outcomes of the five in session workshops on issues related to agriculture and other future topics that may arise from this work	7
3.2 2(b): Methods and approaches for assessing adaptation, adaptation co-benefits and resilience	9
3.3 2(c): Improved soil carbon, soil health and soil fertility under grassland and croplands as well as integrated systems including water management	11
3.4 2(d): Improved nutrient use and manure management towards sustainable and resilient agricultural systems	12
3.5 2(e): Improved livestock management systems	15
3.6 2(f): Socioeconomic and food security dimensions of climate change in the agricultural sector	17
4 Overarching considerations, conclusions and recommendations	20

1 Introduction and aim of the paper

The Koronivia Joint Work on Agriculture (KJWA) was mandated to address “issues related to agriculture” under consideration of the vulnerability of the sector to climate change and of the importance of food security (decision 4/CP.23, 2017). So far, the KJWA has been successful in focusing attention on the relevance of the agricultural sector in the context of climate change. It offered a prominent forum for an exchange of views on potential solutions and on the need for increased support, with a view to contributing to enhanced adaptation and mitigation action in the sector.

Under the KJWA so far, Parties have discussed six topics in workshops carried out jointly by the SBI and SBSTA¹. These issues are:

- a) “Modalities for implementation of the outcomes of the five in session workshops on issues related to agriculture² and other future topics that may arise from this work”;
- b) “Methods and approaches for assessing adaptation, adaptation co-benefits and resilience”;
- c) “Improved soil carbon, soil health and soil fertility under grassland and croplands as well as integrated systems including water management”;
- d) “Improved nutrient use and manure management towards sustainable and resilient agricultural systems”;
- e) “Improved livestock management systems”;
- f) “Socioeconomic and food security dimensions of climate change in the agricultural sector”.

Each of the KJWA workshops was preceded by a call for submissions by Parties and observers and followed by a workshop report prepared by the UNFCCC secretariat. The COP requested a report back from the subsidiary bodies on progress and outcomes of work under the KJWA at its 26th session. A central question for the report back by the subsidiary bodies (SBs) is how substantive elements that have been included in workshop reports, conclusions and informal notes by the secretariat will be captured. Decision 4/CP.23 is not explicit about the future of the KJWA after COP26. If Parties decide to continue with the KJWA, they will also need to agree on the necessary modalities and on potential substantive elements for future work. Clarity on how Parties will proceed with the KJWA is one of the expected deliverables of COP26.

This paper provides an overview of the outcomes of each of the workshops carried out under the KJWA and identifies potential elements that could be included as outcomes of the KJWA in the report

¹ An additional workshop addressing “sustainable land and water management, including integrated watershed management strategies, to ensure food security” as well as “strategies and modalities to scale up implementation of best practices, innovations and technologies that increase resilience and sustainable production in agricultural systems according to national circumstances”, was requested at SB50. As of the time of writing, the workshop has not been concluded. Issues addressed under this workshop are thus not considered in this paper.

² Five in-session workshops were conducted by the SBSTA between 2013 and 2017. The topics of these workshops were: “The current state of scientific knowledge on how to enhance the adaptation of agriculture to climate change impacts” (SBSTA 39, Nov 2013); “Early warning systems and contingency plans in relation to extreme weather events” (SBSTA 42, June 2015); “Assessment of risk and vulnerability of agricultural systems to different climate change scenarios at regional, national and local levels” (SBSTA 42, June 2015); “Identification and assessment of agricultural practices and technologies to enhance productivity in a sustainable manner, food security and resilience, considering the differences in agro-ecological zones and farming systems, such as different grassland and cropland practices and systems” (SBSTA 44, May 2016); “Identification of adaptation measures, taking into account the diversity of the agricultural systems, indigenous knowledge systems and the differences in scale” (SBSTA 44, May 2016).

of the SBs to the COP. The potential of each of the identified elements to generate consensus is evaluated based on the content of UNFCCC documents and the authors' expert judgment.

2 Methodology

To identify potential outcomes of the KJWA, this paper refers to specific substantive issues that the KJWA addressed as elements. This wording is aligned with the informal notes by the UNFCCC co-facilitators.

The analysis assumes that there will be a continuation of the KJWA after COP26. Potential elements for the outcomes of the KJWA were identified in a three-step approach:

1. Screening of the elements included in reports of the SBs to the COP and in informal notes by the co-facilitators;
2. Screening of elements included in the workshop reports;
3. Screening of elements included in other documents (e.g. Party submissions).

In this paper, substantive elements are defined as those that will elicit a follow-up action. To structure the analysis of identified elements, they are categorised as one of the following:

- **Activities (a)** to be undertaken by the COP, the secretariat or the constituted bodies;
- **Themes (t)** that could be included in future work of the KJWA, either as new topics or under the existing topics of the first KJWA roadmap;
- **Recommendations or options (r/o)** related to barriers and solutions for climate action in the agricultural sector that aim to influence the implementation of adaptation and mitigation actions in the agricultural sector by Parties or other stakeholders;
- **Modalities (m)** for future work of the KJWA.

For each element, a brief description as well as information on its context (e.g. scope, purpose, benefits resulting from its implementation or related caveats) are included. This context information frames the element and often helps to make it acceptable to Parties with different views.

It is important to note, that due to the impacts of the SARS-CoV2 pandemic not all of the KJWA topics are at the same stage of discussion. For example, the SBs agreed on conclusions for the workshop issues 2(a) to 2(c), whereas for issues 2(d) to 2(f) discussions are so far only captured in informal notes by the co-facilitators. The elements identified in informal notes may thus be subject to more discussion among Parties than those that are based on agreed language included in SB reports. Wording on elements and context included in this paper is mainly taken from the negotiation documents listed above to facilitate recognition of elements.

In a following step, each element was assessed for its potential to generate consensus. The factors influencing this potential include the level of detail of the element, its novelty, scientific agreement, expressed opinions by Parties, potential for duplication, the source of the element and need of resources for its implementation. According to the results of the assessment, the identified potential is then categorised as high (green), medium (yellow) and low (red).

Section 3 presents the identified elements and the analysis of their potential to generate consensus in tabular format for better overview. Elements are structured along the topics of the six KJWA



workshops. Section 4 provides overarching considerations of the analysis as well as recommendations for the future of the KJWA.






3 Overview of possible outcomes from the KJWA workshops

3.1 2(a): Modalities for implementation of the outcomes of the five in session workshops on issues related to agriculture and other future topics that may arise from this work

The workshop was conducted in December 2018. The workshop report was considered by the SBs during their 50th session and conclusions are contained in the report of the session. An overarching consideration for the future of the KJWA captured in the report of this workshop is that **meeting the needs of farmers and food systems** should be at the centre of future work. Likewise, the relevance of the **future involvement** of science, technology, farmers, youth, local communities, and indigenous peoples and the consideration of gender issues were highlighted. The report also noted that the KJWA served to clarify procedural steps for Parties that wish to develop **guidance for the operating entities** of the financial mechanism relating to agriculture. This is an issue specific Parties may wish to follow up on within or outside of the KJWA.

Table 1: Possible elements for the outcomes of the KJWA resulting from the workshop on topic 2(a)

Element	Type	Description and context	Source	Potential	Analysis
Mapping of activities and mandates of Constituted Bodies (CBs)	a	Description: Mandate to the secretariat to map activities and mandates of the CBs related to agriculture and to make it available to Parties and observers in an easily accessible manner. Context: The starting point is the information presented by representatives of the CBs and other institutions during the workshop. These activities and mandates can be considered “modalities for implementation”.	SB50 report WS report		Information was provided during the workshops and is thus an outcome of the KJWA. Mandate to the secretariat is procedurally simple. The secretariat could also be mandated to continuously identify and characterise relevant mandates and activities related to agriculture. No potential for duplication with other work.
COP mandates to constituted bodies	a/m	Description: Mandates to the CBs as outcomes of the KJWA, e.g. a mandate to intensify work on agriculture and on specific elements. Context: CBs have stated that they work in response to needs expressed by countries. Mandates would need to be captured in COP decisions. For the future, the KJWA could be given a mandate to develop guidance to the CBs.	WS report		The KJWA does not have a mandate to develop mandates to the CBs. Procedurally complex, considering that mandates to CBs are discussed in own agenda items. Diverging views relating to issues on means of implementation (MoI) will surely arise.

Element	Type	Description and context	Source	Potential	Analysis
Gap assessment between existing activities and mandates of the CBs and Party needs	t	Description: KJWA could assess gaps between existing activities and mandates of the CBs and Party needs. Context: Requires discussion on and capturing of Party needs. Could be framed in a very specific way to avoid open ended discussions.	WS report		Will likely be opposed by developed countries as an avenue to call for more Mol.
Exchange on research on mitigation and adaptation in agriculture	a	Description: KJWA could be tasked with fostering exchange between Parties and the scientific community. Context: The purpose of this element would be to inform Parties about research developments and for the KJWA to capture research needs in its reports.	WS report		Offers an opportunity to continue substantive discussions. Potential duplication with work outside the UNFCCC but could have added value of bringing together different stakeholders. Some Parties may request the inclusion of traditional knowledge.
Discussion of measurement of progress towards goals	t	Description: Discussion of goals and progress in implementation. Context: Requires identification of the discussed goals.	WS report		Will likely be opposed by developed country Parties as an avenue to call for more Mol. Potential duplication with other work. Could be acceptable to all Parties if framed as an issue related to methods and methodologies.
Integration of work in NAPs, NDCs and TNA	r/o	Description: Recognise the benefits of better integration of work on agriculture across different processes, inter alia in relation to NDCs, NAPs, TNAs and the identification of country needs. Context: Purpose is to foster synergies across processes and enhance collaboration of entities providing support. CBs often work based on needs expressed by Parties.	WS report		No evident reasons for technical or political disagreements. Should not be framed as a condition to access support but could recognise that it facilitates the work of the financial entities.
Involvement of CBs and entities of the financial mechanism	m	Description: Ensure continued involvement of CBs and financial entities in any future work of the KJWA. This includes the following CBs:	SB50		Broad consensus that this is important. Under the current KJWA, the secretariat organises the workshops and it has secured input by all relevant financial entities. The current arrangement could continue, to pre-empt likely disagreement of how to institutionalise the involvement of CBs and financial entities.




Element	Type	Description and context	Source	Potential	Analysis
		<ul style="list-style-type: none"> Adaptation Committee Least Developed Countries Expert Group Executive Committee of the Warsaw International Mechanism for Loss and Damage Standing Committee on Finance Consultative Group of Experts Technology Executive Committee Climate Technology Centre and Network Paris Committee on Capacity-building <p>Context: The purpose of this element would be to foster information exchange and create “interlinkages, leading to enhanced action and improvements in implementation”.</p>			
Establishment of a web platform	m	<p>Description: Creation of an information repository.</p> <p>Context: The purpose of this web platform would be to share information and experience. The information can be targeted to Parties and CBs. Several caveats for implementation apply, e.g. availability of funds, whether to build on existing web structures or create new ones.</p>	WS report		A dedicated page to “issues related to agriculture” already exists on the UNFCCC website. Instead of creating a new web-platform the existing one could be expanded to allow for better access to information. Parties could consider linking to work outside of the UNFCCC.

3.2 2(b): Methods and approaches for assessing adaptation, adaptation co-benefits and resilience

The workshop was conducted during SB 50 in June 2019. The workshop report was considered by the SBs at their 51st session and the SB conclusions are contained in the report of the session.

Table 2: Possible elements for the outcomes of the KJWA resulting from the workshop on topic 2(b)

Element	Type	Description and accompanying content	Source	Potential	Analysis
Tools (methods and indicators) for assessing adaptation,	t	<p>Description: Adjustment of existing tools and development of new tools for data collection and adaptation assessment.</p> <p>Context: The purpose of this element would be the sharing of best practices. The outcome could refer to the need for a global</p>	SB51 report WS report		Would be a specification of a topic that is already discussed. Needs regarding tools were expressed in the

Element	Type	Description and accompanying content	Source	Potential	Analysis
adaptation co-benefits and resilience		<p>methodological framework to support countries in developing their own tools at the national level, including a quantitative dimension. Caveats for discussions are:</p> <ul style="list-style-type: none"> • Country specific circumstances. • Importance of sharing of best practices among countries and stakeholders • Importance of science, technology and capacity building • Avoid duplication with other ongoing work in this area, e.g. by the FAO • Facilitate exchange between different initiatives and frameworks within the UNFCCC and outside of the UNFCCC. 			workshop. Requires precise wording to frame future work in a meaningful way. Could be adressed together with the following element.
Design and implement national systems for monitoring and evaluation of adaptation, adaptation co-benefits and resilience (M&E)	r/o t	<p>Description: Recognise the importance of national systems for adaptation M&E. As a theme under the KJWA, continue discussions on best practices regarding national M&E systems for agriculture under the KJWA.</p> <p>Context: Current M&E is focused at the project level. Few countries have national level systems suited to follow up on adaptation in NDCs. Purpose of continued discussion under the KJWA would be to take stock of existing methods and approaches related to M&E systems and to support exchange and alignment between initiatives. A noted caveat is that adaptation, adaptation co-benefits and resilience are context specific, thus defining universal metrics is difficult. Involvement of farmers, women and civil society is recommended. Another caveat is that implementation will require capacity building and technology transfer.</p>	WS report		Continuation of discussion would fit into the existing topic. Several Parties have expressed a need for this and expressed that support for national systems will be required. Potential for duplication with ongoing related work by the GEF. Could be adressed together with the element above.
Evaluate adaptation progress at the global level	t	<p>Description: Contribute to the assessment of the Paris Agreement global goal on adaptation.</p> <p>Context: Framed as requiring technical work and political discussions. Specific discussion on agriculture would need to be aligned or contribute to ongoing work by the CMA on evaluation of progress towards the global goal on adaptation.</p>	WS report		Potential for duplication of work under other UNFCCC work streams. Current KJWA discussions are mainly technical, Parties may disagree on adding a political element.
Work on transformational	t	<p>Description: KJWA to discuss and share knowledge regarding transformation, paradigm shift and transformative adaptation in the agricultural sector.</p>	WS report		May be blocked on the basis that “transformational adaptation” or “transformative


Element	Type	Description and accompanying content	Source	Potential	Analysis
adaptation in the agricultural sector		Context: GEF is working on developing “sectoral guidance and strategies for identifying transformative pathways and prioritize investment”.			pathways” are not defined terminology. Terminology appears in submission from URU and CHL.





3.3 2(c): Improved soil carbon, soil health and soil fertility under grassland and croplands as well as integrated systems including water management

The workshop was conducted during SB 50 in June 2019. The workshop report was considered by the SBs at their 51st session and the SB conclusions are contained in the report of the session. The conclusions recognise that the issues referred to under this topic have the potential to increase productivity, contribute to food security, adaptation and adaptation co-benefits, and enhancing carbon sinks. This can be interpreted as an implicit acknowledgment of the need to take action. According to this interpretation, possible elements for the outcomes under this topic are identified. Additionally, the conclusion states several overarching caveats that should be mentioned in the outcomes, namely:

- Issues under this topic are context specific.
- Countries circumstances must be taken into account.
- Issues must be treated in a holistic and inclusive manner.

Table 3 Possible elements for the outcomes of the KJWA resulting from the workshop on topic 2(c)

Element	Type	Description and accompanying content	Source	Potential	Analysis
Options for improving soil carbon, soil health and soil fertility	r/o	Description: Recognise the existence of the options: <ul style="list-style-type: none"> • Use of cover crops • Agroforestry • Restoration of degraded land • Not burning crop residues • Improved nutrient management Context: Socioeconomic barriers that prevent adoption of changed agricultural practices by farmers are a caveat for implementation.	WS report		Some Parties may oppose including information at this level of detail. But there is clear scientific agreement on the importance of the issue. Concrete information would help financial entities in their work.



Element	Type	Description and accompanying content	Source	Potential	Analysis
		Improvements related to soil contribute to CBD and UNCCD targets. Requires scaled-up mobilisation and access to means of implementation for developing countries.			
Protection of existing soil carbon stocks/ prevention of soil carbon loss	r/o	Description: Recognise importance of protecting soil carbon stocks and preventing soil carbon loss. Context: Could refer to specific ecosystems where this is especially important (peatlands, primary forests, natural grasslands).	WS report		Clear scientific agreement on the importance of the issue. Concrete information would help financial entities in their work. Low level of detail.
Data for measuring soil carbon stocks	r/o	Description: Recommendation to Parties and international community to improve data for measuring soil carbon stocks. Context: Purpose would be to increase availability of national data, to allow for higher tier reporting and better decision making. Better data can help attract financing. Implementation requires “country ownership of the process and institutional arrangements for soil mapping and monitoring”. Requires capacity building.	WS report		Scientific agreement on importance of the issue is clear and Parties have expressed the need for it. May require discussion around how to frame capacity building needs to achieve improvements in data.
Co-benefits of soil carbon sequestration	t	Description: Exchange on methods to improve assessment of co-benefits as part of future KJWA discussions. Context: There is a lack of knowledge. Better understanding can serve to communicate benefits to farmers and the general public.	WS report		Would be a specification under existing theme. Co-benefits are always nice. Focus on methodological aspects could deliver added value.
Soil organic carbon management	t	Description: Discussion on improving soil organic carbon management. Context: Closely related to improved nutrient use and soil health. Discuss in the context of NDCs. Purpose would be to share knowledge. Discussion should include farmers and indigenous peoples.	SIDS submission		Element may find support by other Parties, but has not been discussed so far under these terms.



3.4 2(d): Improved nutrient use and manure management towards sustainable and resilient agricultural systems





The workshop was conducted during SB 51 in December 2019. The workshop report was considered by the SBs during the virtual May-June session 2021. The co-facilitators prepared informal notes. Overarching considerations that could be captured under this topic include:

- The need for systemic change, e.g. through “recoupling livestock input and output systems”, taking into account feed and land availability and consideration of the whole nutrient cycle;
- Referencing the co-benefits from addressing N₂O emissions, namely air quality, soil carbon storage, soil health, water quality, biodiversity, ozone layer, health, food security, resilience, energy efficiency, saving costs, while recognising there may be trade-offs associated with specific management decisions.
- Mention of 2019 refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, which contains improvements for the estimation of emissions from manure management.

Table 4 Possible elements for the outcomes of the KJWA resulting from the workshop on topic 2(d)

Element	Type	Description and accompanying content	Source	Potential	Analysis
Improved nutrient use and nutrient circularity	r/o	<p>Description: Recognise the importance of optimal nutrient inputs, improved nutrient use and nutrient circularity as part of sustainable and resilient agricultural systems. Differentiate between areas that have low external nutrient input and areas that have low nutrient input.</p> <p>Context: Benefits include reducing nutrient loss and waste. In areas with high input, it reduces emissions, pollution and costs. In areas with low inputs it increases productivity and resilience. Benefits for agricultural production, climate change adaptation and mitigation action and contributes to soil health. A caveat is that solutions are context specific.</p>	Inf. note		Scientific agreement on the importance of the issue. It is a component of sustainable agricultural systems but should not be framed as the definition of sustainable agricultural systems, to prevent a discussion on definitions.
Options for improved nutrient use and manure management	r/o	<p>Description: Recognise and list options</p>	Inf. note and WS report		Scientific agreement on importance of issue. Important to highlight context specific requirements. The level of detail of naming concrete options may prevent consensus.

Element	Type	Description and accompanying content	Source	Potential	Analysis
		<ul style="list-style-type: none"> Enhanced use of biological nitrogen fixation <ul style="list-style-type: none"> Use of leguminous species Integrated crop and livestock farming Use of manure as organic fertilizer Use of agroecological practices Protect soil microbiome Use of cover crops and intercropping Use of coated urea to reduce urea use Improved feed for manure management in grasslands Recycling of manure as fertilizer Covering slurry stores Appropriate timing and methods of manure application to crops and pasture Extracting biogas <p>Context: Importance of integrating traditional knowledge with scientific practices, putting farmers at the centre, implementing in locally adapted and participatory way, involving all actors in the value chain. Requires adequate extension services for farmers.</p>			
Improved nutrient data	r/o	<p>Description: Recommendation to Parties and international community to improve nutrient data.</p> <p>Context: Can support development of decision-making tools and improve impact measurement. Requires capacity building.</p>	Inf. note		Scientific agreement on importance of the issue is clear and Parties have expressed the need for it. May require discussion around how to frame capacity building needs to achieve improvements in data.
Redirecting of public incentives	r/o	<p>Description: Recognise need to redirect public incentives towards climate smart agriculture and sustainable regenerative agricultural practices.</p> <p>Context: Caveat to implementation is that practices need to be appropriate to local conditions for “all types of farming or agricultural operations”.</p>	Inf. note		Some Parties may consider this out of scope





Element	Type	Description and accompanying content	Source	Potential	Analysis
Platform for information exchange	m	Description: Platform to exchange on technologies, best practices and assessment tools for improved nutrient use and management. Context: Implementation depending on what is agreed for KJWA as a whole.	Inf. note		Needs clarification of purpose and where to locate the platform. The UNFCCC webpage already contains a landing lace for issues related to agriculture. Does information exchange imply interaction on the web-platform?
Role of smallholder farmers and local communities	r/o	Description: Recognise the need to strengthen the role of smallholder farmers and local communities in improving nutrient use. Context: Means to fight hunger in the global South.	Inf. note		Currently framed as an issue for the Global South, this may prevent agreement on the issue.
Recognise overuse of chemical fertilizers	r/o	Description: Recognise disruption of nitrogen cycles as well as surface and groundwater pollution by overuse of chemical fertilizer. Context: N ₂ O emissions from fertilizer overuse affect air, soil and water quality.	Inf. note		May be opposed by Parties and industry. Needs to be framed in a context specific manner, given the geographic regions still lacking nutrient input.
Knowledge exchange on manure management	t	Description: Continue discussion on research and practices for improved manure management. Context: Further research is required in this area.	WS report		Specification of the current KJWA topic.


3.5 2(e): Improved livestock management systems

The workshop was conducted virtually during the Climate Dialogues in November 2020. The workshop report was considered by the SBs during the virtual May-June session 2021. The co-facilitators prepared informal notes.

The overarching consideration related to improved livestock management systems could be to clearly frame recommendations and options for action as recognising the role of livestock systems in fulfilling important functions for ecosystems, nutrition and livelihoods.

Table 5 Possible elements for the outcomes of the KJWA resulting from the workshop on topic 2(e)

Element	Type	Description and accompanying content	Source	Potential	Analysis
Implementation of climate action in livestock management	r/o	<p>Description: Recognise the need for climate action in livestock management. Recognise and list options:</p> <ul style="list-style-type: none"> • Integrated livestock and crop systems • Silvopastoral systems • Sustainable grassland management, improved grazing systems, improved grazing management • Agropastoral systems • Improving feed quality • Improving animal health • Sustainable consumption models • Reduction of food waste • Improving manure storage and processing • Reducing CH₄ from enteric fermentation, e.g use of CH₄ inhibitors, vaccines and consider animal health <p>Context: Consideration of socioeconomic and food security dimensions. Take into account diversity of agricultural practices and systems, local populations and climate variation. Benefits of “properly managed sustainable” livestock systems include food and nutrient security, nutrient cycling, biodiversity, carbon storage, landscapes, provide livelihoods and improve resilience.</p>	Inf. note		Scientific Agreement on the importance of the issue. Parties may oppose level of detail and it may not be possible to agree on a comprehensive list of options.
Discussion on reducing livestock numbers and emissions	t	<p>Description: Exchange on reducing livestock numbers as part of future KJWA work.</p> <p>Context: Caveat is that this needs to take place in the appropriate context and requires context specific considerations.</p>	Inf. note		May be opposed by some Parties and industry. Needs to be framed as a context specific intervention.
Vulnerability of livestock to CC	t	<p>Description: Exchange on vulnerability of livestock to climate change.</p> <p>Context: Reference to the co-benefits for mitigation and biodiversity of adaptation actions for livestock.</p>	Inf. note		Specification of discussion under current KJWA topic. Framed to include co-benefits of reducing vulnerability of livestock to CC.
Improved data on livestock systems	r/o	<p>Description: Recommendation to Parties and international community to improve data for assessing livestock systems.</p>	Inf. note		Scientific agreement on importance of the issue is clear

Element	Type	Description and accompanying content	Source	Potential	Analysis
		Recognise the need for country specific emission factors for livestock and appropriate measurement systems. Improve monitoring of effects of climate change on different livestock systems Context: Capacity building is required, i.e. to acquire data, build data systems and improve data.			and Parties have expressed the need for it. May require discussion around how to frame capacity building needs to achieve improvements in data.
Knowledge exchange on different livestock management systems and related interventions	t	Description: Include discussion on advantages and disadvantages of different livestock management systems and related interventions in future work of the KJWA. Address knowledge gaps associated with future climate scenarios. Context: Discussion aimed at improving data acquisition, and monitoring mitigation and adaptation action. Livestock systems framed as providers of ecosystem services. Consider ways to make knowledge available to farmers, especially low-income farmers.	Inf. note and WS report		Specification of discussion under the current KJWA topic.

3.6 2(f): Socioeconomic and food security dimensions of climate change in the agricultural sector



The workshop was conducted virtually during the Climate Dialogues in November 2020. The workshop report was considered by the SBs during the virtual May-June session 2021. Discussions under this topic are related to the need for food system transformation. This transformation encompasses a broad range of themes which will benefit from ongoing discussions. Overarching considerations under this topic could include:

- That food systems are tailored to local conditions.
- That food systems benefits from the integration of traditional and scientific knowledge and practices.
- That food systems need to deliver on food security, fighting hunger and strengthening resilience of local communities to climate change.

Several other considerations expressed during this workshop are applicable to the KJWA as a whole and are thus not mentioned in detail here but in section 4.

Table 6 Possible elements for the outcomes of the KJWA resulting from the workshop on topic 2(f)

Element	Type	Description and accompanying content	Source	Potential	Analysis
Reconfiguration of food systems	t	Description: Continue discussions on the reconfiguration of food systems along principles of circularity and resource efficiency. Context: Scope of discussion is the whole supply chain. Recognise the vulnerability of food systems.	Inf. note	●	Element mentioned in the informal note. Would be a broad discussion theme under an existing topic.
Sustainable agricultural production systems of all sizes	t	Description: Continue discussion on sustainable agricultural production systems. Context: Reference to the benefits of traditional and small farming food and agricultural production systems.	Inf. note	●	Could be considered an issue that is too broad and duplicate wording referring to the diversity of agricultural systems. For some Parties this may be an important issue to continue discussing because it is related to the role of smallholder farmers.
Reducing food loss and waste	t	Description: Continue discussion on ways to reduce food loss and waste Context: Reference that reducing food loss and waste contributes to reducing GHG emissions and improving food security and livelihoods.	Inf. note	●	Relevance of issue is recognised by Parties and scientific community. May require discussion to agree on framing and could be considered as a standalone topic.
True cost accounting	t	Description: Continue discussion on application of true-cost accounting and new indicators of success in agriculture. Context: To facilitate the transition to diversified, resilient and sustainable agricultural systems.	Inf. note	●	New topic, may warrant additional discussion before agreement is found.
Climate information and early warning systems / Support systems for decision-making to reduce climate risk	t	Description: Continue discussion on climate information and early warning systems. Context: Aim of early warning systems is to provide accurate information to vulnerable groups and institutions to enable effective responses to emergencies associated with the impacts of climate change.	Inf. Note, Party submissions (URU, CHL)	●	Could be considered more an issue of implementation rather than an issue for discussion. Related to issues of support.
Climate insurance	t	Description: Carry out discussion on options for climate insurances in the agricultural sector. Context: To support farmers in dealing with agroclimatic risks.	Party submissions (IDN,	●	Could be considered more an issue of implementation rather than an issue for discussion. Related to issues of support.

			URU, CHL)		
Potential of dietary change	t	<p>Description: Discussion of potential of dietary change</p> <p>Context: Frame discussion in the context of food security, social, cultural and economic aspects of diets.</p>	Inf. note		Some Parties have expressed clear opposition to this element. The scientific views expressed during the workshop supported this element. The context of this element may be especially relevant to make it acceptable to all Parties.
Changes in unsustainable subsidies	r/o	<p>Description: Recommendation to Parties to end subsidies to unsustainable farming practices.</p> <p>Context: To support the transition towards diversified, resilient and sustainable agricultural systems.</p>	Inf note		Some Parties may consider this out of scope of the KJWA.

4 Overarching considerations, conclusions and recommendations

It was possible to identify potential substantive elements under each topic of the initial KJWA roadmap³ which could generate consensus. However, very few of these elements are supported by agreed language, i.e. captured in SB conclusions or a COP decision. Thus, it is still uncertain whether Parties will manage to agree on substantive elements and capture them in a meaningful way.

Several of the identified substantive elements give an indication as to what could be themes under the KJWA in the future. Parties will need to agree on how to shape these elements into a new workplan. For example, Parties could agree to continue discussions following the existing topics and include specifications as to what the discussion will encompass in the workplan. Or, they could take identified elements and cluster and assign them to new topics that would form the basis of the workplan. The latter option will require additional discussions.

The need for better data, methodologies, models and decision-making tools was identified as a cross-cutting element to all topics and should thus be addressed in future work of the KJWA. Likewise, the need for increased means of implementation and the mobilisation of resources for improved implementation of climate action in agriculture is a general theme across all KJWA workshops and is of special relevance to developing countries. Under consideration of these cross-cutting elements, the outcomes of the KJWA could include overarching references to:

- The need for better data, methodologies, models and decision-making tools,
- The need for enhanced support and mobilisation of resources for implementation⁴,
- The need for technology transfer and capacity building,
- The need to create enabling environments for the mobilisation of resources,
- The need for long term projects in agriculture and climate change, providing predictability and enabling long term investment (mentioned under topic 2f),
- The contribution of the KJWA in informing “agricultural strategies of financing entities”.

If there are requests to improve knowledge about available funds, the secretariat could be tasked with compiling information provided by representatives of financial entities across different workshops in one report.

The analysis allowed to identify key issues repeatedly used to frame the KJWA that will likely be included in the outcomes of the KJWA. These issues include:

- Food security and food sovereignty, with a possible reference to SDG 2 (zero hunger);
- The important role of farmers, especially smallholder farmers for action in agriculture. This may include a mention that action of the KJWA should have farmers at its core;
- Inclusion or consideration of women, youth, and indigenous peoples (the order may vary);
- The co-benefits resulting from adaptation and mitigation action in agriculture, e.g. for biodiversity;

³ Roadmap agreed at SB 48, 2018.

⁴ The same time the presentations by representatives of financial entities have shown that support is available and there is ongoing work on agriculture. See Fallasch & Siemons (2020, https://www.oeko.de/fileadmin/oekodoc/Background_paper_Oeko-Institut_climate_finance_agriculture_2020.pdf) for an overview of financial flows. Also, several financial entities highlighted that they aim to respond to what countries are proposing in the NDCs.

- Creation of enabling environments to implementation of action in agriculture.

A continuation of the KJWA will require agreement by Parties on the modalities of future work. The easiest way forward would be to continue with the existing modalities under a joint SBI and SBSTA agenda item. This would imply to continue work under the existing topics, establish a roadmap and request the secretariat to organise workshops and prepare reports, as well as reporting back to the COP on progress and outcomes⁵. This paper did not address questions related to the format of the report back, which could range from an oral statement to a set of conclusions. It is also not clear, where the substantive elements would be captured and different options under the UNFCCC exist, some of which may facilitate finding agreement.

However, some Parties have expressed views on how modalities for the KJWA could be changed:

- Brazil has proposed the creation of a KJWA action plan and to carry out workshops as well as expert meetings;
- The SIDS have proposed to include an element of capacity building focussing on organisations, individuals, and partnerships. They also propose to organise regional workshops;
- Uruguay and Chile suggest developing modalities for the involvement of CBs and entities of the financial mechanisms. They also propose to have workshops and expert meeting and consider that the KJWA should allow developing guidance by the COP to the CBs and financial entities to respond to priorities agreed under the KJWA;
- The LDCs have suggested establishing the KJWA as a constituted body.

In more general terms it will be important to shape the KJWA in a way that allows integration with national processes related to NDCs, is flexible and serve as a nexus to the wide range of initiatives and efforts beyond the UNFCCC. To foster a meaningful KJWA process, future modalities should:

- allow the KJWA to foster a multidirectional exchange of information,
- bring together a diverse range of stakeholders,
- promote a focus on implementation and enhancing action and support,
- allow the KJWA to promote policy integration and coordination,
- improve understanding of Parties and national actors regarding the available resources under and outside the Convention,
- provide easily accessible information and clear messages to stakeholders that can bring forward implementation.

The range of views on the modalities for future work indicates that there is a need for further discussion among Parties at COP26. These discussions could also build on experiences and lessons learned during the pandemic, e.g. of increasing the audience through virtual participation.

⁵ See Urrutia & Siemons (2020, https://www.oeko.de/fileadmin/oekodoc/Background_paper_Oeko-Institut_Options_KJWA_UNFCCC_2020.pdf) for a further discussion of this matter.