



United Nations



Framework Convention on
Climate Change

Informal Summary on the fifth dialogue under the United Arab Emirates just transition work programme

Summary Report by the Chairs of the Subsidiary Bodies

List of acronyms

AI	Artificial intelligence
CMA	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
COP	Conference of the Parties
FAO	Food and Agriculture Organization of the United Nations
ILO	International Labour Organization
IMO	International Maritime Organization
JTWP	United Arab Emirates just transition work programme
LDCs	Least Developed Countries
MSMEs	Micro, Small and Medium-sized Enterprises
NAP	National Adaptation Plan
NDC	Nationally Determined Contribution
SB	Subsidiary Bodies
SBI	Subsidiary Body for Implementation
SBSTA	Subsidiary Body for Scientific and Technological Advice
SIDS	Small Island Developing States
TEC	Technology Executive Committee
UAE	United Arab Emirates
UNDP	United Nations Development Programme
UN-Habitat	United Nations Human Settlements Programme
UNFCCC	United Nations Framework Convention on Climate Change

I. Introduction

A. Mandate

1. CMA 4 decided to establish a work programme on just transition for discussion of pathways to achieving the goals of the Paris Agreement outlined in Article 2, paragraph 1, in the context of Article 2, paragraph 2.¹
2. CMA 5 established the scope and modalities of the United Arab Emirates just transition work programme (JTWP), deciding that it shall be implemented under the guidance of the SBSTA and the SBI through a joint contact group to be convened at each of their sessions, starting at SB 60.²
3. CMA 5 also decided that at least two dialogues shall be held each year as part of the JTWP, with one to be held prior to the first regular sessions of the subsidiary bodies, starting with SB 60, and one prior to the second regular sessions of the subsidiary bodies, starting with SB 61, and that such dialogues should be conducted in hybrid format to allow both in-person and virtual participation.³
4. Furthermore, CMA 5 requested the Chairs of the subsidiary bodies to prepare in a timely manner, with the assistance of the secretariat, an annual summary report on the dialogues.⁴ At SB 60, the SBSTA and the SBI encouraged their Chairs to prepare and publish, starting from the first dialogue and immediately following each dialogue under the JTWP, an informal summary of the discussions at that dialogue, including on opportunities, best practices, actionable solutions, challenges and barriers, ensuring that those discussions are reflected in a comprehensive and balanced manner.⁵
5. Pursuant to this mandate, the secretariat prepared and published, under the guidance of the Chairs of the subsidiary bodies, informal summary reports on the first⁶, second⁷, third⁸ and fourth⁹ dialogues held under the JTWP. The information contained in the informal summaries on the four dialogues held so far under the JTWP is included in the first¹⁰ and second¹¹ annual summary reports by the Chairs of the subsidiary bodies.
6. This informal summary on the fifth dialogue held under the JTWP has been prepared under the guidance of the Chairs of the subsidiary bodies, reflecting the discussions held at the fifth dialogue in a comprehensive and balanced manner, including a summary of the discussions and the key findings, opportunities and barriers identified in the world café session, breakout discussion sessions and plenary discussions.
7. The informal summary captures and summarizes views shared during the fifth dialogue but does not represent an exhaustive summary of all interventions.

B. Proceedings

8. The fifth dialogue under the JTWP took place in Yeosu, Republic of Korea, from 24 to 25 April 2026. The fifth dialogue took place in hybrid format, with participants from

¹ Decision [1/CMA.4](#), para. 52.

² Decision [3/CMA.5](#), para. 4.

³ Decision [3/CMA.5](#), para. 5.

⁴ Decision [3/CMA.5](#), para. 10.

⁵ [FCCC/SBSTA/2024/7](#), para. 94, and [FCCC/SBI/2024/13](#), para. 41.

⁶ Available at <https://unfccc.int/documents/640155>.

⁷ Available at <https://unfccc.int/documents/642594>.

⁸ Available at <https://unfccc.int/documents/650431>.

⁹ Available at <https://unfccc.int/documents/652861>.

¹⁰ Available at <https://unfccc.int/documents/641865>.

¹¹ Available at <https://unfccc.int/documents/652998>.

Parties, United Nations and other intergovernmental organizations and NGOs.¹² The dialogue was hosted by the Government of the Republic of Korea as part of the first Climate Week of 2026. The topic of the fifth dialogue was **just transition pathways for holistic approaches to food security, including with a focus on agriculture and oceans, in the context of element c) paragraph 2 of decision 3/CMA.5.**¹³

9. In the opening plenary, participants were welcomed by remarks delivered by Damon Jones, UNFCCC secretariat, Pedro Luiz do Nascimento Filho, COP30 Presidency and Ambassador Adonia Ayebare, SBSTA Chair. Following the welcoming remarks, Julia Gardiner, SBI Chair, provided participants with an introduction to the scope and format of the fifth dialogue under the JTWP.

10. Following the welcoming and introductory segment, the format shifted to a world café session to provide the opportunity for focused interventions of the delegates in-person and virtually around three subtopics. Three world café tables, two in-person and one virtual, were set up for each of the three subtopics. After 40 minutes of discussion, participants moved to a table on a different subtopic, thus allowing all participants to participate in discussions on each of the three subtopics over the course of the three rounds of the world café session.

11. The discussions at the world café tables were guided by facilitators who used the following guiding questions to provide a framework for the discussions:

- a) **Workforce considerations, livelihoods and the role of social dialogue in the context of just transition pathways that enhance food security** focused on the following guiding questions:
 - (i) What role can labour rights, participatory approaches and social protection systems play in ensuring inclusive, context specific and equitable just transitions, including agriculture and ocean-based activities?
 - (ii) What are best practices in supporting decent work, sustainable livelihoods, and income security for smallholder farmers, family farmers, artisanal fishers, pastoralists, migrants and workers across food value chains, including those in the informal economy and what could be the role of the private sector, including medium, small and micro enterprises?
 - (iii) How can education, training, skills development, reskilling and upskilling initiatives support workers and communities in transforming and adapting to changing food systems while enhancing productivity, addressing emissions and increasing resilience and sustainability?
- b) **Human rights, gender considerations and social inclusion in the context of just transition pathways that enhance holistic approaches to food security that leave no one behind** focused on the following guiding questions:
 - (i) How can human rights be integrated into just transition pathways that enhance food security to ensure equitable and inclusive outcomes?
 - (ii) What are effective approaches for promoting youth participation, gender equality and empowering rural women, in particular in agriculture and ocean-based action, including in decision making processes and access to resources?
 - (iii) How can whole of society approaches, including inclusive governance and participatory planning processes, contribute to ensuring that transitions leave no one behind?
- c) **Indigenous Peoples' knowledge, traditional knowledge and locally led approaches in the context of just transition pathways that enhance food security** focused on the following guiding questions:

¹² The agenda, webcast recordings and presentations are available at <https://unfccc.int/event/fourth-dialogue-under-the-united-arab-emirates-just-transition-work-programme>.

¹³ Element c) in paragraph 2 of decision 3/CMA.5 refers to Opportunities, challenges and barriers relating to sustainable development and poverty eradication as part of transitions globally to low emissions and climate resilience, taking into account nationally defined development priorities;

- (i) How can Indigenous Peoples' knowledge, traditional knowledge, and local knowledge systems be effectively recognized, protected, and integrated into just transition pathways that enhance food security?
- (ii) What are examples of locally led and community-based approaches, including in the context of agriculture and oceans, that contribute to just transitions?
- (iii) What are some best practices for ensuring the full and effective participation of Indigenous Peoples, including through free, prior and informed consent, the integration of traditional knowledge and the preservation of cultural heritage in the context of just transition pathways that enhance food security?

12. Following the world café session, the facilitators reported back on the discussions to the plenary, where participants had the opportunity to reflect on those discussions and then engage in an open exchange to react to and supplement the information reported back before closing for the day.

13. The second day of the dialogue commenced with opening remarks by Ingrid Lundberg, Head of Australia's COP31 Presidency of Negotiations Branch. Following these opening remarks, and before engaging in breakout group discussions, participants had the opportunity to hear three scene-setting presentations. These were delivered by Kate Hughes, from the Asian Development Bank, Stig Svenningsen, member of the Technology Executive Committee and Sangji Lee, from the United Nations Development Programme, and aimed at framing and inspiring subsequent discussions.

14. The breakout group discussions were divided into three distinct thematic discussions running in parallel. Participants were assigned to one of three breakout discussion rooms. After each round of discussions lasting 45 minutes, facilitators rotated to a different breakout room, allowing all participants to attend each thematic discussion over the remainder of the day. The three discussion topics were the following:

(a) **Topic 1: International cooperation and climate finance as an enabler for just transition pathways to food security** framed by the following guiding questions:

- (i) What lessons are being learned on financing nationally defined just transition pathways for food security aligned with the outcome of the first Global Stocktake, including through enhancing access to climate finance, innovative and blended finance, crowding in of the private sector in a way that complements public finance, and financing for social protection systems?
- (ii) What financing approaches and partnerships can accelerate nationally determined just transitions toward resilient, low-emission and sustainable food systems consistent with pathways to limit global warming to 1.5°C, while safeguarding livelihoods and ensuring food security?
- (iii) How can countries translate NDCs, NAPs, and food systems strategies into investable, programmatic pipelines that mobilize sustained, scaled-up finance for just transitions?

(b) **Topic 2: Innovation, technology transfer, capacity-building and knowledge sharing** framed by the following guiding questions:

- (i) How can access to climate resilient and context appropriate technologies enhance adaptive capacity, strengthen food security, and support locally led solutions, particularly in vulnerable communities?
- (ii) How can innovation and technology development and transfer support just transition pathways to climate resilient, low-emission and sustainable food systems, including through sustainable value chains, circular practices and clean production methods?
- (iii) How can capacity-building initiatives strengthen institutional and human capacities to design and implement inclusive, nationally determined just transition pathways that enhance food security?

(c) **Topic 3: Enabling Environments** framed by the following guiding questions:

- (i) What policy and regulatory frameworks can attract investment into resilient and low emissions agriculture and ocean-based action, while ensuring food security and livelihoods?
- (ii) How can enabling environments ensure that investment in agriculture and ocean-based action deliver inclusive outcomes, like decent work, resilience and sustainable resource use?
- (iii) What enabling conditions are needed to support a global shift toward resilient and low emissions agriculture?

15. Following three breakout group discussion rotations, the facilitators reported back on the discussions to the plenary. The morning of the second day of the dialogue was concluded with an open discussion in plenary before breaking for lunch.

16. The afternoon of the second day started with two scene-setting presentations providing an introductory overview for the three different themes. The first presentation which provided an initial framing context for topics 1 and 2 was delivered by Janek Toepper from the UN Food and Agriculture organization. Damon Jones from the UNFCCC secretariat delivered a scene-setting presentation on topic 3.

17. The breakout group discussions on the three different topics ran in parallel. Participants were assigned to one of three breakout discussion rooms. After each round of discussions lasting 45 minutes, facilitators rotated to a different breakout room, allowing all participants to attend discussions on each of the three topics. The three discussion themes were the following:

(a) Topic 1: Agriculture, agroecology, agroforestry and circularity in nationally determined transition pathways that enhance food security framed by the following guiding question:

- (i) How can agroecological and agroforestry approaches and circular economy principles support holistic and nationally determined just transition pathways that enhance food security, advance mitigation and adaptation synergies, strengthen resilience, improve health, and promote sustainable livelihoods while minimizing food loss and waste?

(b) Topic 2: Ocean-based action in nationally determined just transition pathways that enhance food security framed by the following guiding question:

- (i) How can ocean-based action, including the protection and restoration of marine and coastal ecosystems and the promotion of sustainable fisheries and aquaculture, contribute to holistic and inclusive nationally determined just transition pathways that strengthen food security and resilience while delivering mitigation co benefits?

(c) Topic 3: Looking ahead: the potential roles of the UAE just transition work programme and of the just transition mechanism framed by the following guiding question:

- (i) What roles could the UAE just transition work programme, including following its review¹, play in advancing the design and implementation of nationally determined just transition pathways for holistic approaches to food security, including with a focus on agriculture and oceans, including in the context of paragraph 8 of decision 2/CMA.7? What could be the role of the just transition mechanism?

18. Following three breakout group discussion rotations, the facilitators reported back on the breakout group discussions to the plenary. Following the report back, participants had the opportunity to reflect on the report back and engage in an open discussion on the three topics.

19. The fifth dialogue concluded with closing address by Julia Gardiner, SBI Chair and Deputy Director Tuğba Dinçbaş, Incoming COP 31 Presidency.

II. Summary of discussions and key findings

A. Workforce considerations, livelihoods and the role of social dialogue in the context of just transition pathways that enhance food security

20. The world café discussions on this subtopic were facilitated by Camilla Roman from the International Labour Organization (Table 1), Bert De Wel from the International Trade Union Confederation (Table 2) and Alexandra Mutungi from the United Nations Environment Programme (Table 3, virtual).

1. Summary of discussions and key findings

21. Many participants emphasized the importance of labour rights, social protection systems and participatory approaches in supporting just transition pathways that enhance food security, including in agriculture and ocean-based action. Participants highlighted that integrating these elements into the design and implementation of transition pathways can support workers, farmers, fishers and communities affected by both climate change and transition-related changes. Many participants highlighted the importance of decent work, sustainable livelihoods and income security across food value chains. Several participants noted the importance of supporting smallholder farmers, family farmers, artisanal fishers, pastoralists, migrant workers and workers in the informal economy, while recognizing the diversity of circumstances and livelihood systems across countries and regions. Some participants emphasized that limiting global warming to 1.5 degrees Celsius is itself a fundamental protection for agricultural workers and food producers, particularly in least developed countries (LDCs) and small island developing States (SIDS), noting that higher levels of warming directly undermine workers' capacity to work and maintain productivity, and that climate ambition and the protection of livelihoods are therefore inseparable.

22. Many participants highlighted the importance of addressing the needs of workers in the informal economy, noting that they represent a significant share of employment across agriculture and food systems in many countries. Participants observed that informal workers often lack access to labour rights, social protection, skills development opportunities and formal representation. Several participants emphasized the importance of extending protections, including strengthening access to social protection systems and ensuring that informal workers are included in social dialogue, decision-making and planning processes. Many participants noted that social protection measures can help address income insecurity associated with climate impacts, changing production systems and economic disruptions. Participants referred to a range of approaches, including social protection floors, cash transfers, income support measures, insurance schemes and other forms of assistance aimed at supporting vulnerable groups and reducing inequalities.

23. A number of participants highlighted the importance of social dialogue in the context of just transition pathways that enhance food security. Several participants also reflected on the importance of meaningful participation, emphasizing that workers, farmers, fishers, Indigenous Peoples, women, youth, local communities and other affected groups should be involved in the design, planning and implementation of just transition pathways. Several participants noted that participation should move beyond consultation, highlighting the importance of community-led approaches and of ensuring that participation is culturally appropriate and grounded in local realities.

24. Many participants stressed the importance of education, training, skills development, reskilling and upskilling in supporting transitions in food systems. Participants noted the need to strengthen access to vocational training, agricultural education, peer-to-peer learning initiatives and capacity-building programmes. Several participants highlighted the importance of ensuring that such initiatives respond to local needs and realities, including in rural communities, coastal areas and SIDS. Several participants emphasized the importance of access to technology and innovation in supporting food security, productivity, adaptation and resilience. Participants highlighted that access to technologies remains uneven and noted the importance of technology transfer, capacity-building and support for the development of

context-specific technologies. Some participants stressed that technology-related challenges should be considered alongside workforce development and skills-building efforts.

25. Many participants reflected on the role of the private sector in supporting just transition pathways that enhance food security. Participants noted that private sector actors can contribute to strengthening market access, supporting producers' integration into formal value chains and creating opportunities for sustainable livelihoods. Several participants emphasized the importance of enabling environments that support smallholder farmers, fishers and micro, small and medium-sized enterprises in accessing markets and benefiting from transition-related opportunities. At the same time, some participants highlighted limitations associated with existing business models and noted that private sector investment may not be sufficient to address structural challenges related to food security, adaptation and resilience. Some participants also raised concerns regarding power imbalances within food systems and the distribution of benefits across value chains.

26. A number of participants also highlighted differing perspectives regarding priorities within food systems transitions. Several participants emphasized that adaptation, resilience-building, food security and poverty eradication remain primary priorities for many developing countries. Some participants noted that synergies between productivity, emissions reduction, resilience and sustainability may not always be present and stressed the importance of reflecting national circumstances and development priorities in transition pathways. Some participants also acknowledged the role of food systems transitions in contributing to emissions reductions, while emphasizing that approaches should be designed to reflect national circumstances and avoid creating additional burdens for smallholder farmers and vulnerable communities.

27. A number of participants highlighted the importance of recognizing and protecting the rights, knowledge systems and livelihoods of Indigenous Peoples and local communities. Participants emphasized the value of traditional knowledge and locally adapted practices in supporting food security and resilience. Several participants also highlighted concerns regarding the impacts of certain transition-related activities on Indigenous Peoples, local communities, lands, livelihoods and cultural heritage.

28. Many participants emphasized the importance of gender-responsive approaches and highlighted the role of women throughout food systems. Participants noted that women often face barriers in accessing social protection, training opportunities, land rights and participation in decision-making processes. Several participants also highlighted the importance of recognizing unpaid care work and addressing gender-specific constraints when designing policies and programmes.

29. Several participants highlighted concerns regarding intellectual property rights and access to agricultural innovations, including seeds. Some participants noted that intellectual property arrangements may affect access to technologies and agricultural inputs and raised concerns regarding potential implications for smallholder farmers, Indigenous Peoples and traditional farming practices. Many participants highlighted the importance of means of implementation (finance, technology and capacity-building). Participants stressed that these elements are necessary to support workforce development, technology access, adaptation efforts and broader just transition pathways, in developing countries, particularly in LDCs and SIDS.

30. A number of participants highlighted challenges associated with standards and certification requirements affecting agricultural producers and food value chains. Participants expressed concerns regarding compliance costs, certification requirements, technological barriers and associated impacts on smallholder farmers, workers and rural communities. Several participants emphasized the need for support, financing, capacity-building and technology transfer to address these challenges. Other participants highlighted the role of such standards and requirements in advancing climate, environmental, human rights and labour rights objectives across food system value chains, and noted that support is available to developing country producers in meeting related requirements. Participants also highlighted the importance of considering workforce impacts across entire food value chains, including production, processing, transport, marketing and distribution. Several participants

emphasized the need to ensure that transition pathways contribute to fairer outcomes for workers and producers throughout these value chains.

2. Opportunities, best practices, actionable solutions, challenges and barriers

31. Many participants identified opportunities to strengthen just transition pathways that enhance food security through the integration of labour rights, social protection systems and participatory approaches into relevant policies and programmes. Participants highlighted opportunities to improve livelihoods, strengthen resilience and support food security through approaches that actively involve workers, farmers, fishers, Indigenous Peoples, local communities, women and youth in decision-making processes.

32. Several participants highlighted social protection systems as an important actionable solution for supporting workers and communities affected by climate impacts and transitions in food systems. Participants referred to a range of approaches, including universal social protection coverage aligned with ILO Recommendation 202¹⁴, social protection floors, universal basic income schemes, cash transfers, income support measures and insurance schemes. Several participants also emphasized the importance of ensuring that social protection systems are accessible to workers in the informal economy and responsive to the needs of women and other groups in vulnerable situations.

33. Many participants highlighted opportunities to strengthen support for workers in the informal economy. Participants emphasized the importance of extending labour protections, social protection and skills development opportunities to these workers. Some participants highlighted the formalization of informal workers as a potential approach to improving access to rights, protections and decent work. Other participants cautioned, however, that formalization should not be treated as a universal solution, noting that it may not reflect the realities and priorities of Indigenous Peoples and local communities whose livelihoods are grounded in customary systems, and that the quality of conditions in the formal sector is as important as formal status itself.

34. Many participants identified education, training, reskilling and upskilling as important actionable solutions. Participants referred to examples including vocational training programmes, agricultural colleges, technical and vocational education initiatives and skills accelerator programmes. Some participants also highlighted Farmer Field Schools and other peer-to-peer learning approaches as examples that support knowledge-sharing, strengthen capacities and create opportunities for collective action. Several participants emphasized the importance of ensuring that education and training initiatives are linked to local needs, employment opportunities and evolving sectoral realities, and cautioned against treating reskilling as a standalone activity disconnected from available technologies, decent working conditions and market access. Other participants noted that for Indigenous Peoples and local communities whose livelihoods are rooted in land, forest and ocean systems, transition support should not assume that reskilling into different occupations is desired or appropriate, emphasizing that these communities may seek to continue traditional ways of living with adequate support and protection rather than transitioning to new occupations.

35. Participants also identified opportunities to strengthen livelihoods through support for producer organizations, cooperatives and community-based approaches, noting that such structures can improve market access, strengthen bargaining power and enable producers to retain a greater share of revenues. Several participants highlighted opportunities associated with improved access to markets and stronger value chains, including through support for micro, small and medium-sized enterprises, local value addition and more equitable distribution of benefits across food value chains.

36. Despite these opportunities and actionable solutions, participants identified a number of persistent challenges and barriers. Many highlighted low and unstable incomes, climate-related risks, food insecurity and limited access to social protection as significant challenges, with workers in the informal economy often facing heightened vulnerability. Several

¹⁴ The ILO Social Protection Floors Recommendation, 2012 (No. 202) is available at: https://normlex.ilo.org/dyn/nrmlx_en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:3065524

participants highlighted concerns regarding intellectual property rights and access to agricultural innovations, including seeds, and raised concerns regarding implications for smallholder farmers, Indigenous Peoples and traditional farming practices. A number of participants also highlighted challenges associated with approaches such as carbon border adjustment mechanisms, which they framed as climate change-related trade-restrictive unilateral measures, and potential negative impacts on just transitions in developing countries. They also highlighted that standards and compliance requirements in developed countries can impose costs and technological requirements on smallholder farmers and producers in developing countries. Other participants highlighted the role of such standards and requirements in advancing climate, environmental, human rights and labour rights objectives across food system value chains, and noted that support is available to developing country producers in meeting related requirements. Many participants emphasized that approaches should be tailored to national circumstances and cautioned against one-size-fits-all solutions.

B. Human rights, gender considerations and social inclusion in the context of just transition pathways that enhance holistic approaches to food security that leave no one behind

37. The world café discussions on this subtopic were facilitated by Romchat Wachirattanakornkul from the Office of the High Commissioner for Human Rights (Table 4), Carmen Wabnitz from YOUNGO (Table 5) and Felicitus Okoko from the Women and Gender Constituency (Table 6, virtual).

1. Summary of discussions and key findings

38. Many participants emphasized the importance of meaningful participation and inclusive governance in the design and implementation of just transition pathways that enhance food security, including in agriculture and ocean-based activities. Participants highlighted that affected groups should be involved throughout policy and decision-making processes and emphasized that participation should extend beyond consultation to enable meaningful engagement in the development, implementation and review of policies and programmes. Several participants noted that participation and the ability to meaningfully influence decision making are particularly important in the context of transitions that may affect livelihoods, access to resources and food systems.

39. Several participants highlighted the importance of ensuring that participation processes are inclusive, accessible and responsive to local contexts and circumstances. Many participants noted that participation should involve Indigenous Peoples, local communities, women, youth, persons with disabilities, older persons, workers in the informal economy and people living in poverty, among other groups. Participants emphasized the importance of providing accessible information, including through local languages and culturally appropriate communication, and noted that meaningful participation often requires time, resources and capacity. Several participants also highlighted concerns regarding consultation fatigue, tokenistic participation and situations in which consultation takes place only after key decisions have already been made.

40. Many participants emphasized the importance of ensuring that those most affected by transition-related decisions can participate effectively in decision-making processes and highlighted the importance of identifying and engaging stakeholders whose voices may otherwise remain unheard, including informal workers, seasonal workers, migrant workers and women engaged across food value chains. Several participants drew attention to power imbalances within food systems and the influence of larger actors in dominating consultative spaces, stressing that participatory processes must be actively designed to ensure equitable representation rather than inadvertently reinforcing existing inequalities.

41. A number of participants highlighted the importance of Indigenous Peoples' rights in the context of just transition pathways that enhance food security. Participants emphasized the importance of land rights, customary rights, food systems, traditional knowledge and the principle of free, prior and informed consent, noting that land and tenure rights are closely

linked to food security, livelihoods, cultural identity and well-being. Several participants highlighted concerns regarding activities that may affect Indigenous Peoples' lands, territories and resources, and emphasized the importance of ensuring the meaningful participation of Indigenous Peoples in decision-making processes affecting them.

42. Many participants emphasized the important role of women in food systems and highlighted structural barriers that women often face including in the context of security of land tenure and land rights, access to finance, training, information and decision-making opportunities. Participants underlined the need to address these barriers, including the disproportionate burden of unpaid care responsibilities, when designing policies and programmes related to food systems transitions. Participants also highlighted the importance of youth participation and empowerment, noting concerns regarding the underrepresentation of young people in decision-making processes and emphasizing the importance of creating meaningful opportunities for younger generations in the context of just transition pathways that advance food security.

43. Many participants highlighted the importance of integrating human rights considerations into just transition pathways, emphasizing that transitions should respect, promote and fulfil human rights. Some participants stressed that the right to development is fundamental to any discussion of human rights in the context of just transitions and food security, noting that material conditions, including access to food, productive resources and decent livelihoods -must be addressed alongside governance and participation considerations. Some participants cautioned that human rights discussions under the UNFCCC should remain consistent with relevant mandates, noting that detailed human rights frameworks fall within the purview of other United Nations processes, and that just transitions should focus on respecting, promoting and fulfilling human rights as a foundational commitment. A number of participants also emphasized the importance of food sovereignty alongside food security, highlighting that food security encompasses not only access to food but also the ability of people and communities to shape decisions affecting food systems, natural resources and food production.

44. Participants highlighted the importance of legal, regulatory and institutional frameworks in supporting inclusive and equitable transition processes. Several participants shared examples of consultation requirements, social impact assessment processes and institutional arrangements designed to identify impacts on different groups and strengthen stakeholder participation. Many participants emphasized the importance of ensuring that participation contributes to tangible outcomes, noting that inclusive processes should support implementation and influence decision-making rather than serving as procedural exercises. Some participants also highlighted the importance of means of implementation (finance, technology and capacity-building) as essential enabling conditions for genuine inclusion, particularly in developing countries where poverty eradication, food security and broader development needs remain pressing priorities.

2. Opportunities, best practices, actionable solutions, challenges and barriers

45. Several participants identified opportunities to advance just transition pathways that enhance holistic approaches to food security by strengthening participation and inclusive governance through institutional arrangements that provide affected groups, including Indigenous Peoples, women, youth and workers in the informal economy, with formal roles in decision-making processes rather than observer status. Participants noted that such arrangements can strengthen accountability, improve the responsiveness of policies and technical outputs to community realities, and help connect international processes with national and local contexts. Some participants also highlighted the potential of multi-stakeholder platforms and consultative bodies that bring together governments, civil society, producers and rights holders as approaches that can improve legitimacy and reduce the risk of exclusionary transitions.

46. Several participants highlighted legal and regulatory frameworks as important enablers of inclusive and equitable transition processes. Approaches cited included mandatory consultation requirements embedded in policy development processes, social and human rights impact assessment tools applied to transition-related policies and investments, and grievance and redress mechanisms that enable communities to raise concerns and seek

accountability. Some participants also highlighted the value of governance arrangements that institutionalize the participation of women, youth and Indigenous Peoples in national consultative bodies related to food systems and climate action. Several participants also highlighted the importance of ensuring the meaningful participation of constituencies and civil society organizations in governance processes and UNFCCC constituted bodies, noting that institutionalized arrangements providing rights holders with dedicated roles and decision-making participation, rather than observer status, can help ensure that the perspectives of workers, women, Indigenous Peoples, youth and other affected groups are systematically reflected in policy outcomes.

47. Several participants highlighted approaches aimed at strengthening gender-responsive and intergenerational inclusion within food systems transitions. These included targeted measures to address structural barriers affecting women's access to land, finance, training and decision-making, as well as initiatives that support women-led organizations and recognize unpaid care work as a consideration in policy design. Participants also referred to approaches that create entry points for youth within food and agricultural systems and that support intergenerational knowledge-sharing between older and younger producers.

48. Some participants highlighted opportunities to strengthen food security through approaches informed by the right to food and food sovereignty, including participatory governance mechanisms that enable communities to influence decisions affecting food systems, natural resources and food production, as well as approaches that strengthen local food systems and improve access to locally produced food. Several participants noted that existing international instruments in this area provide a foundation for the kinds of participatory and rights-based frameworks needed to support just transitions.

49. Despite these opportunities, participants identified a number of persistent challenges and barriers. Many highlighted that power imbalances within food systems mean that larger actors can dominate consultative spaces, and that participatory processes may not always reach the most marginalized groups. Several participants raised concerns about consultation processes that occur only after key decisions have already been made, as well as the risk of consultation fatigue where communities are repeatedly engaged without seeing meaningful change. Participants also emphasized that meaningful participation requires time, resources and capacity, conditions that are not always present, and that participation must ultimately translate into tangible outcomes and influence over decisions rather than serving as a procedural exercise. Several participants further highlighted that means of implementation (finance, technology and capacity-building) are essential enabling conditions for genuine inclusion, particularly in developing countries.

C. Indigenous Peoples' knowledge, traditional knowledge and locally led approaches in the context of just transition pathways that enhance food security

50. The world café discussions on this subtopic were facilitated by Agrafena Kotova, from the Facilitative Working Group of the Local Communities and Indigenous Peoples Platform (Table 7), Jazmin Burgess, from LGMA (Table 8) and Rathana Peou Norbert-Munns from the UN Food Systems Hub (Table 9, virtual).

1. Summary of discussions and key findings

51. Many participants emphasized the importance of locally led and community-based approaches in supporting just transition pathways that enhance food security, including in agriculture and ocean-based activities. Participants highlighted that Indigenous Peoples, local communities, small-scale food producers and fishers possess knowledge, governance systems and practical experience that can contribute to food security, resilience and sustainable resource management. Several participants emphasized that locally led approaches should be supported through inclusive governance arrangements that enable affected communities to participate in shaping decisions that affect their livelihoods, food systems and natural resources.

52. Many participants highlighted the importance of Indigenous Peoples' knowledge, traditional knowledge and local knowledge systems in supporting just transition pathways that enhance food security, in particular in the context of climate adaptation and resilience. Participants noted that these knowledge systems encompass agricultural practices, fisheries management, seed conservation, ecosystem stewardship and approaches to sustainable resource use developed over generations. Several participants emphasized that these knowledge systems should not be viewed solely as sources of information or technical inputs, but should be understood within the broader context of Indigenous Peoples' relationships with lands, territories, resources, governance systems, cultures, worldviews and ways of life.

53. Several participants also emphasized the importance of recognizing, protecting and promoting the rights of Indigenous Peoples. Many participants highlighted the importance of self-determination, land tenure, customary rights, Indigenous governance systems and the principle of free, prior and informed consent. Several participants noted that the protection of Indigenous Peoples' rights is closely linked to food security, food sovereignty, cultural continuity and the effective integration of Indigenous knowledge systems into transition processes. A number of participants also emphasized the importance of food sovereignty alongside food security, highlighting that food security extends beyond access to food to include the ability of people and communities to participate in decisions affecting food systems, natural resources and food production, including through the protection of seed sovereignty and local food systems.

54. Many participants stressed the importance of meaningful participation and inclusive governance, emphasizing that Indigenous Peoples, local communities, women, youth, small-scale producers and other affected groups should be involved in the design, implementation and review of transition-related policies and actions. Several participants noted that participation should move beyond consultation and enable communities to influence decisions from the earliest stages of policy and project development. Participants also highlighted the importance of institutional arrangements that provide Indigenous Peoples and other rights holders with formal roles in governance and decision-making structures rather than participation solely as observers.

55. Several participants emphasized the importance of integrating different forms of knowledge, including Indigenous knowledge, local knowledge and scientific knowledge. Participants highlighted approaches based on co-development, co-production and partnerships among communities, researchers, policymakers and other stakeholders, stressing that such approaches should be based on mutual respect and equitable partnerships that recognize Indigenous Peoples and local communities as both knowledge holders and rights holders. A number of participants highlighted concerns regarding intellectual property rights, seed systems, access to genetic resources and Indigenous data sovereignty, emphasizing the importance of ensuring that Indigenous Peoples and local communities retain authority over how their knowledge, resources and innovations are accessed, used, shared and protected.

56. Some participants emphasized that climate policies and transition-related measures should avoid creating additional burdens for vulnerable communities or undermining food security, livelihoods, land access and local resource governance systems. Some participants cautioned that framing just transitions as primarily community-led should not result in communities bearing the burden of responding to climate change that they did not cause, stressing the importance of ensuring that state support, means of implementation and access to modern technologies complement rather than substitute for community-led action. Several participants highlighted the importance of ensuring that climate action, adaptation, food security and broader development objectives are pursued in an integrated and mutually supportive manner.

57. Many participants emphasized the importance of means of implementation (finance, technology and capacity-building) in supporting locally led and community-based approaches. Participants highlighted the need for support that strengthens local capacities, enables community-led initiatives and facilitates equitable participation in transition processes. Several participants also emphasized the importance of ensuring that financial and institutional arrangements are accessible to small-scale producers, Indigenous Peoples, local communities and workers in the informal economy, and highlighted the importance of

holistic and integrated approaches that consider the interconnections between food systems, livelihoods, ecosystems, cultural heritage, climate resilience and sustainable development.

2. Opportunities, best practices, actionable solutions, challenges and barriers

58. Several participants identified opportunities to advance just transition pathways through locally led and community-based approaches. Participants emphasized the importance of ensuring the full and effective participation of Indigenous Peoples in decisions affecting their food systems, natural resources and livelihoods, in line with their rights under relevant international frameworks. Several participants also highlighted the role of local communities, small-scale food producers and artisanal fishers in contributing to food security, resilience and sustainable resource management, and noted that supporting their participation in transition-related planning and governance can help ensure that policies are grounded in local realities and priorities.

59. Many participants emphasized opportunities to strengthen the recognition and protection of Indigenous Peoples' rights as a foundational enabling condition for just transition pathways that enhance food security. Some participants highlighted the importance of land tenure, self-determination, customary rights and the full implementation of the principle of free, prior and informed consent, noting that these rights underpin not only the well-being and livelihoods of Indigenous Peoples but also the effective stewardship of ecosystems and resources that are central to food security. Several participants noted that the integration of Indigenous Peoples' knowledge into transition-related planning is most effective and durable when grounded in the recognition and protection of these rights.

60. Some participants highlighted opportunities to strengthen the integration of Indigenous Peoples' knowledge, traditional knowledge and local knowledge systems into just transition pathways through approaches that eschew extractive models and are based on co-production, co-development and equitable partnerships. Several participants noted that such approaches, when built on mutual respect and the free and informed participation of knowledge holders, can support more context-specific and culturally grounded responses to both food security and climate-related challenges. Participants emphasized the importance of ensuring that knowledge-sharing processes include robust safeguards against the misuse, appropriation or commercialization of traditional knowledge, and that Indigenous Peoples and local communities retain authority over how their knowledge and innovations are accessed and used.

61. Participants highlighted a range of community-led practices that illustrate how locally led approaches can contribute to food security, resilience and sustainable livelihoods, including community-based resource management systems, agroecological and agroforestry practices, community seed systems, ecosystem restoration efforts and locally governed approaches to the management of land, water and marine resources. Several participants noted that such practices can support food production, biodiversity conservation and cultural continuity while reflecting local priorities and values, and emphasized the importance of ensuring that these practices receive adequate financial and institutional support and are recognized within national and international just transition frameworks.

62. Several participants identified opportunities to strengthen implementation through legal, institutional and policy frameworks that recognize Indigenous governance systems, community rights and meaningful consultation processes. Approaches highlighted included the incorporation of free, prior and informed consent, consultation requirements and social impact assessment processes into policy and project development, as well as governance arrangements that provide Indigenous Peoples and local communities with formal roles in decision-making. Participants also noted the importance of ensuring that financial and institutional arrangements for capacity-building, technology transfer and broader means of implementation are accessible to and designed in partnership with Indigenous Peoples, local communities, small-scale producers and workers in the informal economy. In this context, some participants reflected on the importance of two-way capacity building.

63. Despite these opportunities, participants identified a number of persistent challenges and barriers. Many highlighted that insufficient recognition of Indigenous Peoples' rights, governance systems and land tenure remains a fundamental constraint on locally led

approaches and the effective integration of Indigenous Peoples' knowledge into transition processes. Several participants raised concerns regarding the misuse, appropriation and commercialization of traditional knowledge, genetic resources and community-managed practices, and highlighted intellectual property arrangements as a barrier to communities' ability to exercise control over their knowledge and agricultural practices. Some participants also cautioned that certain climate-related actions, conservation measures and transition-related activities may inadvertently affect community rights, land access, livelihoods and food systems, and stressed the importance of designing and implementing such measures in ways that support rather than undermine community well-being. Participants further noted that existing financial and institutional arrangements do not always adequately reach Indigenous Peoples, local communities, small-scale producers and workers in the informal economy, and emphasized the need for approaches that respond to local circumstances and support the long-term sustainability of community-led initiatives.

D. International cooperation and climate finance as an enabler for just transition pathways to food security.

64. The session on this subtopic was facilitated by Diana Alejandra Quezada Avila from the Global Green Growth Institute.

1. Summary of discussions and key findings

65. Many participants emphasized that climate finance and international cooperation are indispensable enablers of nationally determined just transition pathways that enhance food security, including in agriculture and ocean-based activities. Several participants underlined that predictable, adequate and accessible finance is necessary to support countries in advancing on their nationally determined just transition pathways, enabling them to achieve their own development priorities, climate objectives and food security goals. Many participants stressed that international cooperation should be demand-driven and country-owned rather than prescribing uniform approaches. Several participants noted that the key challenge is no longer defining the importance of food systems, agriculture, fisheries and ecosystems in national climate and development plans, where they are already prominently reflected in NDCs and NAPs, but rather translating these commitments into implementation at scale.

66. Some participants underlined that discussions on financing just transition pathways for food security must be grounded in the principles of equity and common but differentiated responsibilities and respective capabilities, and recalled the obligations of developed countries to provide and mobilize climate finance for developing country Parties under Article 9 of the Paris Agreement. Other participants emphasized that advancing just transition pathways for food security also requires improving the quality, coherence and programmatic design of financing approaches, and highlighted the importance of international cooperation in sharing best practices and mobilizing finance from a range of sources in support of nationally determined priorities. Some participants highlighted the importance of aligning financing approaches with efforts to limit the global temperature increase to 1.5 degrees Celsius while safeguarding livelihoods and ensuring food security.

67. Many participants highlighted that when it comes to climate finance for food system transitions, both quantity and quality matter. Several participants recalled that, under the Paris Agreement, developed countries have obligations related to the provision and mobilization of climate finance, and emphasized that grant-based and highly concessional finance is particularly important for just transition interventions in the context of food systems transitions which may lack commercial returns, such as social protection, income support for farmers, smallholder resilience, ecosystem restoration and the transition to agroecological practices. Some participants cautioned against loan-heavy approaches that could undermine fiscal space and just transition objectives, particularly for LDCs, SIDS and other countries with high debt burdens. Several participants noted that food systems and food security, in particular its adaptation and resilience aspects, have historically attracted inadequate levels of climate finance relative to their importance and vulnerability.

68. Several participants highlighted a fundamental challenge in how just transitions are typically financed: when treated as a social add-on or safeguard applied reactively to climate projects, just transition components are difficult to fund and can be seen as adding cost or complexity. Some participants noted the potential of an alternative approach that treats just transition as an enabler of ambitious climate action from the outset, requiring early upstream analytical and technical assistance work to assess vulnerabilities and opportunities, followed by integrated programmatic design that sequences and matches different types of finance to different components. These participants noted that this approach enables countries to draw on a portfolio of financing instruments, including grants for social transition components, concessional loans for public good investments, and private finance for bankable components, rather than relying on a single instrument.

69. Many participants highlighted the importance of integrated, multi-sectoral approaches that address the interconnections among climate action, food systems, agriculture, fisheries, livelihoods and ecosystems. Several participants emphasized that financing food security and ecosystem health in the context of climate change is core to adaptation and just transitions, and noted that interventions across food, water and ecosystem dimensions are most effective when bundled into coherent cross-sectoral programmes rather than financed as isolated projects. Several participants also highlighted the growing importance of the urban and peri-urban dimension, noting that a significant share of people facing food insecurity live in urban and peri-urban areas and that subnational governments and local authorities are increasingly important actors in food system transitions that currently have very limited access to climate finance. Some participants emphasized that the core challenge for many developing countries is not only how to access existing climate finance, but the limited provision of grant-based and concessional climate finance and cautioned against framings that place the primary burden on developing countries to make their just transition programmes more investable.

70. Several participants reflected on existing instruments and approaches to mobilizing finance in the context of just transitions that advance food security. Some participants pointed to country-led investment platforms and programmatic approaches as important best practices, noting that bundling related interventions into coherent, nationally owned programmes with clear timelines, financing needs and potential funding sources creates the scale and coherence that supports sustained and scaled-up implementation. Some participants also highlighted domestic carbon pricing and emissions trading systems as mechanisms that can generate revenues redirectable to social and just transition interventions. Some participants highlighted the potential of redirecting existing public financial flows, including by repurposing public agricultural support towards sustainable food system transitions and phasing out inefficient fossil fuel subsidies that do not address food security or just transitions, as sources of finance that could generate revenues for just transition pathways that advance food security. Other participants noted that these matters fall within national sovereignty and the scope of other fora, and emphasized that discussions on finance for just transition pathways in the context of the topic of the dialogue should focus on the provision of support from developed to developing countries in line with their obligations under the Paris Agreement. Some participants emphasized the complementary roles of public finance, concessional finance, private investment and blended approaches, while noting that different interventions require different instruments and that people-centred measures and distributional policies in food systems typically require public grants or highly concessional terms.

71. Several participants underscored the importance of ensuring that finance reaches those most affected by climate change and transition-related challenges in food systems, including smallholder farmers, fishers, Indigenous Peoples, local communities, women, youth and workers in the informal economy. Participants highlighted the importance of direct access modalities, community-level financing mechanisms and locally led approaches in this regard. Some participants noted the importance of human rights-based and gender-responsive approaches to financing, including robust participation mechanisms and safeguards. Other participants emphasized that financing arrangements should be guided by nationally determined priorities, and cautioned against the imposition of external conditionalities that may not reflect the circumstances and development needs of recipient countries. Several participants also emphasized that institutional capacity constraints, particularly for project preparation, costing and pipeline development, limit the ability of many developing countries

to access and absorb available support, and highlighted the importance of readiness and technical assistance.

72. Many participants highlighted broader structural barriers affecting implementation, including limited fiscal space, high borrowing costs, debt burdens and the architecture of the international financial system. Several participants emphasized that these structural constraints must be addressed if just transition pathways for food security are to be adequately financed. Some participants noted that certain approaches such as carbon border adjustment mechanisms, which they framed as climate change-related trade-restrictive unilateral measures, could have negative impacts on just transitions in developing countries by hindering international cooperation and access to means of implementation. Other participants disagreed with such framing and highlighted the role of the approaches in question in advancing climate, environmental and sustainability objectives.

2. Opportunities, best practices, actionable solutions, challenges and barriers

73. Several participants identified opportunities to improve the quality, accessibility and effectiveness of climate finance in support of nationally determined just transition pathways that enhance food security, including in agriculture and ocean-based activities. Some participants noted the value of embedding just transition considerations in national planning and budgeting cycles, including in NDCs, NAPs and food system strategies, to enhance policy coherence and ensure that financing arrangements reflect nationally determined priorities. Some participants also noted the importance of social and environmental safeguards in financing arrangements, as well as of human rights-based and gender-responsive approaches, including robust participation mechanisms. Other participants emphasized that financing for just transition pathways must be provided in line with the needs and priorities of developing countries as outlined in their NDCs and NAPs, rather than being shaped by external conditionalities or earmarking determined outside national planning processes.

74. Several participants highlighted concrete best practices for translating nationally determined just transition pathways aligned with food system priorities into programmatic investment pipelines. Some participants highlighted the importance of sequencing different financing instruments within programmatic approaches, so that technical assistance and just transition components come first and create the enabling conditions for larger climate investments to follow. Some participants noted the value of programme designs that earmark a portion of revenues, including from carbon pricing where applicable, for just transition interventions such as income support, worker reskilling and community resilience in agriculture and fisheries. Participants also pointed to risk mitigation instruments, including guarantees, insurance facilities and first-loss tranches, as means of reducing the cost of capital for priority food system investments while maintaining social outcome safeguards.

75. Some participants highlighted an alternative framing for finance in the context of the topic, emphasizing the importance of aligning financial flows with developmental outcomes including livelihoods, resilience and equity rather than organizing finance around bankability and commercial returns alone. These participants noted that many priority food system interventions, such as smallholder support, ecosystem restoration, resilience-building and local value chain development, generate high social and ecological value that conventional financial metrics do not capture, and suggested that financial institutions should evolve their approach to better reflect these broader outcomes in whole-of-economy and whole-of-society approaches to just transition pathways that advance food security.

76. Several participants highlighted the importance of direct access modalities and localized finance, noting that only a very small number of global climate funds currently provide direct access to local governments despite their central role in food security and designing and implementing just transition pathways at the community-level. Some participants highlighted direct grant programmes for Indigenous Peoples and local communities as approaches that can strengthen bottom-up implementation. Several participants emphasized the importance of strengthening project preparation capacities and

technical support to enable developing countries to translate their nationally determined just transition pathways into investable programmes, with many noting that this challenge is particularly acute for LDCs and SIDS, which face the greatest constraints in accessing and absorbing available finance relative to their needs and vulnerability.

77. Several participants highlighted opportunities to strengthen international cooperation in support of just transition pathways that enhance food security, including enhanced coordination among multilateral development banks, bilateral donors and climate funds to reduce fragmentation and improve coherence in support of nationally determined priorities, as well as through bilateral and multilateral partnerships that combine finance with technical support and high social and environmental standards across food system value chains. Some participants also highlighted the potential of debt relief and debt swap arrangements as mechanisms to free up fiscal space for just transition investments, particularly in highly indebted developing countries.

78. Despite these opportunities, participants identified a number of persistent challenges. Many participants noted that just transition pathways that enhance food security, including in agriculture and ocean-based activities, require finance that goes beyond mitigation to adequately support adaptation measures, resilience-building, social transition components and ecosystem restoration. These were mentioned as areas that have tended to attract limited financing relative to identified needs. Several participants noted that capacity constraints, including for costing just transition measures and integrating them into national planning frameworks, remain a significant barrier for many developing countries in translating their food security and just transition priorities into programmes that can attract and absorb finance. Some participants cautioned against one-size-fits-all approaches and emphasized the importance of tailoring support to nationally determined priorities, food system contexts and local realities.

E. Innovation, technology transfer, capacity-building and knowledge sharing.

79. The session on this subtopic was facilitated by Emily Caroline Costa Silva from RINGO.

1. Summary of discussions and key findings

80. Many participants emphasized that innovation, technology development and transfer, capacity-building and knowledge-sharing are indispensable enablers of nationally determined just transition pathways that enhance food security, including in agriculture and ocean-based activities.

81. Participants also highlighted that innovation and technology, when accessible, affordable and responsive to national and local circumstances, can help advance just transition pathways, including by contributing to adaptation measures, resilience, sustainable livelihoods and food security. Several participants drew on the work of the Technology Executive Committee (TEC), noting that transforming agri-food systems requires an integrated, systems-based approach in which technologies cannot be considered in isolation as agricultural production depends on water availability and energy access, post-harvest systems rely on infrastructure, storage and transport, and all of these are shaped by policy, finance and market conditions. Some participants referred to knowledge products developed by the TEC and the Food and Agriculture Organization of the United Nations (FAO), which map climate technologies across agri-food value chains from production to processing, storage and distribution, and identify both opportunities and barriers including finance constraints, limited technical capacity and gaps in enabling environments.

82. Many participants highlighted adaptation and resilience as central objectives of technology deployment in the context of just transition pathways that enhance food security. Several participants emphasized the importance of digital technologies, climate information services and early warning systems as important enablers, while noting concerns about equitable access, data governance and the risk of deepening inequalities if deployment is not inclusive. Other participants pointed to the role of agroecological and context-appropriate production technologies, efficient post-harvest and storage solutions, and sustainable

fisheries technologies in strengthening adaptive capacity and reducing vulnerability for smallholder farmers, artisanal fishers and food-insecure communities.

83. Some participants highlighted the potential of innovation and technology to contribute to emissions reductions across agri-food value chains, noting that food production, processing and distribution remain heavily dependent on fossil fuels and that this dependence creates vulnerability to price volatility and supply disruptions with direct implications for food security and livelihoods. These participants pointed to clean and renewable energy technologies, bioenergy from agricultural residues, resource-efficient production methods and circular approaches as important contributors to both mitigation and food system resilience. They also noted that current NDCs present a significant mitigation action gap in agri-food systems, representing an important opportunity in the next round of NDC updates. At the same time, other participants emphasized the importance of maintaining a non-prescriptive approach that respects nationally determined pathways and the diversity of technological solutions available to countries, cautioning against narrowing the discussion to specific technologies or transition approaches.

84. Many participants stressed that technology transfer should move beyond the one-directional delivery of equipment or technical solutions and should become a deliberate, structured process of knowledge-sharing, capacity-building and institutional strengthening. Participants emphasized the importance of collaborative, demand-driven and people-centred approaches that enable countries and communities to adapt and develop technologies suited to their own circumstances, development priorities and food system realities. A recurrent concern highlighted by a number of participants was the risk of technology dumping, where technologies are transferred without meaningful capacity-building, without responding to local contexts or without consideration of longer-term operation and maintenance, which several participants noted had undermined outcomes in past initiatives. Some participants also raised concerns about certain innovations being tested without adequate assessment of risks or application of free, prior and informed consent, particularly in the context of lands and oceans in the Global South.

85. Many participants emphasized the importance of whole-of-society and inclusive approaches to innovation, technology deployment and capacity-building. Participants highlighted that co-designing technology-related initiatives with farmers, fishers, Indigenous Peoples, local communities, women and youth improves contextual relevance and helps ensure that technologies respond to real needs rather than displacing labour or local systems. Several participants also noted that technology choices should consider trade-offs between productivity, equity, resilience and employment, and that policies should avoid imposing top-down solutions.

86. Several participants also highlighted the importance of Indigenous Peoples' knowledge, traditional knowledge and local knowledge systems as valuable and effective approaches to sustainable resource management, food security and climate resilience in agriculture and fisheries. Participants stressed that innovation processes should recognize, respect and build upon these systems rather than displace them, and that combining them with modern technologies can lead to more robust and sustainable outcomes. Several participants emphasized that intellectual property rights, licensing arrangements and restrictions on seed saving and exchange can limit the ability of developing countries, Indigenous Peoples and local communities to access, adapt or develop needed technologies, and emphasized the importance of ensuring that innovation does not entrench dependency, exclusion or corporate control. Several participants further noted that technologies are not neutral and that their impacts on employment, livelihoods and equity should be assessed when designing technology-related initiatives.

87. Many participants highlighted the importance of enabling conditions for technology uptake in the context of just transitions that enhance food security, including appropriate infrastructure, financing, institutional support and policy frameworks, and noted the critical role of international cooperation, South-South and triangular cooperation, and multilateral institutions in addressing persistent gaps in technology access, capacity-building and implementation support, particularly for LDCs and SIDS.

2. Opportunities, best practices, actionable solutions, challenges and barriers

88. Several participants identified opportunities to strengthen the development, transfer and deployment of technologies in support of just transition pathways for food security. Some participants highlighted context-specific and locally adapted technologies as an important category of actionable solutions, including AI-assisted agricultural and water management tools designed for low-literacy users in developing countries, climate-smart fisheries and water management technologies, and modular and decentralized solutions for agri-food processing and storage. Participants emphasized that such technologies are most effective when co-designed with the communities that will use them, when linked to capacity-building and maintenance support, and when informed by participatory technology needs assessments aligned with national climate strategies. Some participants also highlighted peer-to-peer learning initiatives, including Farmer Field Schools, as mechanisms that effectively combine technology uptake with knowledge-sharing and the collective organization of producers, and noted their relevance for scaling agroecological and other locally adapted practices.

89. Some participants highlighted opportunities to strengthen national and regional innovation ecosystems that connect research institutions, extension services, producer organizations, MSMEs and the private sector, noting that effective innovation in food systems depends not only on the technologies themselves but also on the institutions and networks that facilitate learning and sustained implementation. Some participants suggested the establishment or strengthening of innovation hubs and testing facilities that can validate technologies under local conditions while also serving as platforms for skills development and accreditation. Some participants also highlighted the importance of developing regional standards for agri-food technologies to improve safety, interoperability and uptake. Several participants emphasized the role of South-South and triangular cooperation, peer-to-peer learning, pooled procurement and shared testing facilities in sharing locally developed and piloted food system technologies across similar contexts.

90. Several participants discussed opportunities to enhance the effectiveness of the Technology Mechanism in supporting implementation at scale in food systems. Some participants suggested strengthening operational links between the Climate Technology Centre and Network and the Financial Mechanism to pair technology support with concessional and grant-based finance for public good elements such as extension services, workforce training and social safeguards. Some participants also proposed that the just transition mechanism could play a matchmaking function, connecting countries with available expertise, technologies and financing, and helping identify which technical avenues are accessible and suited to specific national and local contexts. Other participants cautioned, however, that discussions under the JTWP should not prejudge or shape the design of the mechanism, which has its own dedicated deliberative process.

91. Intellectual property barriers were raised by a number of participants as key considerations for equitable technology deployment in food systems. Some participants suggested actionable solutions including voluntary licensing, patent pools, open-source platforms and open hardware designs to improve access, particularly for LDCs and SIDS. Several participants also highlighted the importance of safeguards against the misuse, appropriation or commercialization of Indigenous Peoples' knowledge, community-managed agricultural practices and traditional seed systems, emphasizing that knowledge-sharing should only take place with the free, prior and informed consent of knowledge holders.

92. Despite these opportunities, participants identified a number of persistent challenges and barriers. Many highlighted constraints related to finance, infrastructure, limited domestic manufacturing and supply chain capacity, and shortages of technical skills, particularly in LDCs and SIDS. Several participants noted the challenge of fragmented pilot initiatives that fail to progress to implementation at scale, and emphasized the importance of coordinating technology, finance and capacity-building processes to move from demonstration to sustained implementation. Participants highlighted the importance of ensuring that enabling conditions, including institutional support, adequate finance and appropriate policy frameworks, accompany technology deployment and support its long-term sustainability, noting that without these conditions technology alone cannot deliver the equitable and inclusive outcomes that just transition pathways require.

F. Enabling environments

93. The session on this subtopic was facilitated by Luc Tezenas from ENGO.

1. Summary of discussions and key findings

94. Many participants emphasized the importance of enabling policy, regulatory, institutional and financial environments in supporting nationally determined just transition pathways that enhance food security, including in agriculture and ocean-based activities. Participants highlighted that enabling environments should support the integrated achievement of climate, food security, livelihood and development objectives in a manner that reflects national circumstances, capacities and priorities. Many participants stressed that the key challenge is moving from fragmented, project-based approaches to coherent, programmatic responses that address the interlinkages between climate, food security and ecosystem health, and that embedding just transition principles into programme design from the outset is essential to ensure that this shift delivers equitable and inclusive outcomes for workers, producers and communities. Several participants emphasized that enabling environments are both preconditions for implementation and outcomes that require sustained investment, and that countries facing structural constraints may require additional international support to establish and maintain them.

95. Many participants highlighted the importance of policy coherence, regulatory certainty and long-term planning. Participants emphasized the value of whole-of-government and whole-of-society approaches that align climate, food security, agricultural, fisheries, development and social policies, and strengthen coordination across institutions, levels of governance and sectors. Several participants noted that just transition aspects should not serve as safeguards at the end of project or policy design, but should guide risk identification and project design from the earliest stages. Some participants highlighted the IPCC's finding, with high confidence, that effective policy packages should be comprehensive, consistent, balanced across objectives and tailored to national circumstances, and emphasized that bottom-up implementation is necessary to ensure policies remain effective and consistent with national objectives.

96. Several participants emphasized the critical role of subnational governments, municipalities and local authorities as actors in enabling just transition pathways that enhance food security. Some participants noted that local governments are often closest to food-insecure communities and food systems and are best placed to ensure that national commitments are translated into locally responsive implementation. Participants highlighted the importance of embedding food systems, including urban and peri-urban food systems, into national policy planning instruments such as NDCs, NAPs and national just transition strategies, and of establishing national food strategies that strengthen urban food systems and improve policy coherence across ministries and levels of government.

97. Many participants highlighted the importance of rights-based approaches and social safeguards as core components of enabling environments. A number of participants emphasized that investment in food systems should be governed by safeguards that prevent land dispossession, exclusion from resources, and violations of labour rights. Several participants noted that agriculture and food systems must support not only greater productivity and climate resilience but also fair wages, decent working conditions and social protection across the whole value chain. Some participants stressed that for Indigenous Peoples land rights, tenure rights and free, prior and informed consent are essential enabling conditions for sustainable food systems and that just transition pathways should ensure sustained access to territories through secure tenure, meaningful consultation, social forestry and legal recognition.

98. Some participants highlighted that the quality and design of financing arrangements might be as important as their scale in creating enabling environments for just transitions in food systems. A number of participants noted that investment in food systems should be accompanied by strong social and environmental safeguards, benefit-sharing arrangements, participatory design processes and grievance mechanisms to ensure that finance supports equitable outcomes rather than inadvertently concentrating land, resources or benefits among

larger actors. Several participants also emphasized the importance of ensuring that subnational governments and local communities have direct access to finance to implement locally responsive solutions, and noted that existing financial and institutional arrangements do not always adequately reach smallholder farmers, fishers, Indigenous Peoples and workers in the informal economy. Some participants highlighted the importance of ensuring that financial frameworks recognize locally led approaches, including Indigenous Peoples' practices, as investable and eligible for support.

99. Several participants also highlighted risks associated with poorly governed investment in food systems, including land concentration, exclusion of small producers, pressure on fishing grounds, water stress, overfishing and ecosystem degradation. Several participants noted that enabling environments should consider not only the intention of climate measures but also their distributional and cross-border effects. Some participants noted that certain approaches such as carbon border adjustment mechanisms, which they framed as climate change-related trade-restrictive unilateral measures, could have negative impacts on just transitions in developing countries by hindering international cooperation and access to means of implementation. Other participants highlighted the role of such approaches in advancing climate, environmental and sustainability objectives and emphasized that the UNFCCC and the Paris Agreement were not designed to assess individual parties' nationally determined policies and measures and have no mandate to do so.

100. Many participants highlighted broader structural challenges affecting enabling environments, including limited fiscal space, high cost of capital, debt burdens, institutional capacity limitations, siloed policy design, overly technical approaches and the difficulty of translating national goals into local implementation. Some participants emphasized that cascading policy frameworks from national targets to sectoral actions can create stability and reduce risk for investors while improving implementation, but that this requires multi-disciplinary approaches that align policies with local realities. Some participants noted that enabling environments for food system transitions require addressing the fossil fuel dependence of fertilizers and agricultural machinery, and emphasized the importance of providing policy signals to transition away from fossil fuels, including by addressing inefficient fossil fuel subsidies that currently strengthen the business case for fossil fuels in agriculture. Other participants stressed that effective climate action should focus on reducing greenhouse gas emissions rather than restricting particular energy sources, and emphasized that a balanced just transition strategy should emphasize flexibility in choosing efficient and cost-effective approaches.

2. Opportunities, best practices, actionable solutions, challenges and barriers

101. Several participants highlighted national just transition governance mechanisms and advisory bodies as important best practices for creating enabling environments for implementing nationally determined just transition pathways that advance food security. Many participants noted the value of dedicated institutional arrangements that bring together different ministries, levels of government, workers, employers, civil society and local communities to co-design and monitor just transition policies for food systems, and cited whole-of-economy and whole-of-government approaches from different national contexts that have succeeded in bridging climate, agriculture, fisheries, social protection and economic development agendas. Several participants also emphasized the role of interministerial coordination bodies in breaking policy silos and ensuring that sectoral strategies are coherent and mutually reinforcing across food, water, energy and ecosystem dimensions.

102. Some participants identified opportunities to strengthen enabling environments through cascading policy frameworks that translate national targets into sectoral actions and then into locally responsive implementation. These participants noted that such frameworks can create stability, reduce risk and improve implementation outcomes, and highlighted the role of multi-disciplinary approaches that align policies with local realities, including the diversity of food production systems such as pastoral, livestock, artisanal fisheries and agroforestry. Some participants also emphasized the importance of embedding food systems, including urban and peri-urban food systems, into national planning instruments such as NDCs, NAPs and national food strategies, and highlighted municipal procurement, school

feeding programmes and urban-rural linkages as practical levers for connecting food security, decent work and climate action at the community level. Other participants shared national experiences of developing regulatory frameworks and investment programmes for water management in agriculture under conditions of water scarcity, including desalination, wastewater reuse and precision irrigation, as examples of how nationally determined enabling environments can support food security under climate stress and illustrate the diversity of approaches that effective enabling environments may require.

103. Several participants identified the strengthening of land tenure security, recognition of customary rights and legal protection of Indigenous Peoples' rights as foundational actionable solutions. Many participants also referred to approaches that incorporate free, prior and informed consent, consultation requirements and social and human rights impact assessment processes into policy and project development as important tools for embedding equity and rights considerations from the early stages of policy or process design. Some participants highlighted the importance of ensuring that policy and financial frameworks explicitly recognize locally led and Indigenous Peoples' practices as valid approaches to food system transitions, rather than requiring compliance with externally defined standards that may not reflect local realities or be accessible to smallholder farmers and artisanal fishers.

104. Several participants identified opportunities to strengthen implementation by improving the quality of investment design. Some participants suggested that just transition principles should guide project and programme design from the outset rather than being added as end-stage safeguards, and highlighted the importance of benefit-sharing arrangements, participatory design processes and grievance mechanisms in ensuring that investment supports equitable outcomes. Some participants proposed integrity frameworks for just transition finance in food systems as an approach to embedding these principles systematically into investment design and accountability. Several participants also emphasized the importance of strengthening local institutional capacities for project preparation, implementation and monitoring, particularly in LDCs and SIDS, as a means of enabling countries to develop and manage programmes that can attract and sustain financing for food system transitions.

105. Despite these opportunities, participants identified a number of persistent challenges and barriers. Many highlighted limited institutional capacity, siloed policy design, weak coordination across levels of government and the difficulty of translating national goals into local implementation. Several participants raised concerns about the potential unintended social risks of certain climate-related policies, in particular when it comes to affecting traditional practices, cultural identity and food sovereignty, and emphasized the importance of integrating risk management and safeguarding Indigenous knowledge and climate-smart traditional practices throughout policy design and implementation. Some participants also noted that the terminology used in policy and financial frameworks can itself become a structural barrier, with certain labels inadvertently excluding smallholder farmers, informal workers and community-based actors from access to finance and policy support, highlighting the importance of ensuring that frameworks are designed to reach and recognize the full diversity of actors in food systems.

G. Agriculture, agroecology, agroforestry and circularity in nationally determined transition pathways that enhance food security

106. The session on this subtopic was facilitated by Janek Toepper from FAO and Krib Sitathani from UNDP.

1. Summary of discussions and key findings

107. Many participants highlighted the potential of agroecological and agroforestry approaches, together with circular economy principles, to support holistic and nationally determined just transition pathways that enhance food security, strengthen resilience, improve health and promote sustainable livelihoods. Some participants noted that these approaches can contribute simultaneously to food security, ecosystem health, biodiversity conservation, soil fertility, carbon sequestration, water management and livelihood

outcomes. Several participants drew on scientific evidence, including IPCC assessments, noting that agroecological approaches could significantly contribute to mitigation efforts needed to limit global warming to 1.5 degrees Celsius while simultaneously supporting adaptation and enhancing incomes for smallholder farmers. Some participants also highlighted the high dependence of agri-food systems on fossil fuels across production, processing and distribution, noting that reducing this dependence can simultaneously strengthen food system resilience and contribute to emissions reductions. Some participants highlighted that the transformation of agri-food systems is one of the most powerful strategies available to deliver on the Paris Agreement targets across mitigation, adaptation and loss and damage. Many participants emphasized that mitigation co-benefits should be recognized and valued, while others noted that finance for just transition pathways that enhance food security in developing countries should not be made conditional on mitigation outcomes. These participants cautioned that the recognition of agroecological and locally led approaches should not be used to substitute for means of implementation, emphasizing that the value of these approaches does not reduce the obligation to deliver finance, technology transfer and capacity-building to support developing country food system transitions. Some participants highlighted the importance of maintaining broad, non-prescriptive framing of circular approaches to allow countries to choose pathways consistent with their national circumstances and development priorities.

108. Many participants highlighted the importance of nationally determined and context-specific approaches, noting that food systems operate under diverse environmental, climatic, social and economic conditions and that multiple pathways may coexist. They also underlined that the nationally determined nature of just transition pathways in food systems must be grounded in the principles of equity and common but differentiated responsibilities and respective capabilities. Several participants noted the importance of applying agroecological principles across diverse production systems, including livestock, dairy and pastoral systems, and cautioned against approaches that narrow transitions to a single production channel rather than enabling the widest range of systems to improve their sustainability. Some participants also highlighted the importance of viewing food systems through the water-energy-food nexus, noting that agricultural production depends on water availability and energy access and that integrated systems-based approaches are necessary for effective transitions. Some participants reflected that transitions in food systems could involve real trade-offs. Some participants noted that land-based mitigation approaches, including offsets and afforestation, can under certain circumstances compete with food production and smallholder land tenure, raising concerns about food security particularly in developing regions that bear a disproportionate share of the land-based mitigation burden under global pathways. Other participants noted, however, that well-designed land-based mitigation approaches, including agroforestry and ecosystem restoration, can deliver both mitigation and food security outcomes simultaneously when governed with meaningful community participation and safeguards. Some participants also noted that conservation measures such as protected areas or fishing restrictions can impose costs on small-scale farmers, fishers and pastoralists unless paired with alternative livelihood support and transition finance. Other participants further highlighted the risk that agricultural intensification and digitalization, while potentially reducing emissions intensity, can concentrate benefits in larger operations at the expense of smallholder farmers, women, youth and informal agri-food workers if not carefully governed.

109. Many participants highlighted food loss and waste reduction as a high-priority objective for food system transitions, noting that, while it remains under-financed and under-prioritized, it simultaneously improves food security, reduces emissions, strengthens value chains and increases incomes. Several participants noted that the primary driver of post-harvest losses is not inadequate knowledge but inadequate infrastructure, particularly in developing countries, including storage facilities, cold chains, rural roads and processing capacity. Some participants called for explicit recognition of post-harvest infrastructure investments as eligible uses of climate finance for food security and just transitions.

110. Participants highlighted the importance of viewing food systems as integrated value chains, noting that just transition pathways must enable producers not only to produce sustainably but also to process, trade and capture value in evolving global markets. Several participants raised concerns about the concentration of power in global agri-food value

chains, the limited bargaining power of small-scale producers relative to large buyers, and the implications of international sustainability and traceability requirements for developing country producers, including their compliance costs and market access implications. Other participants highlighted the role of such requirements in advancing climate, environmental and sustainability objectives, including halting and reversing deforestation, and noted their contribution to ensuring that products entering markets do not violate human rights or labour rights.

111. Several participants emphasized the growing importance of urban and peri-urban food systems, noting that a significant share of food-insecure people globally live in urban and peri-urban areas and that integrating agroecology into urban planning and climate action can support food security, circular economies, local livelihoods and social benefits. Participants highlighted the role of municipalities and subnational governments in advancing just transitions in food systems through urban food governance, local procurement and school feeding programmes, and emphasized the importance of embedding urban and peri-urban food systems into national planning instruments including NDCs and NAPs.

112. Several participants emphasized rights-based approaches as an essential foundation for food system transitions, highlighting the right to adequate food, land rights, water rights, food sovereignty and the principle of free, prior and informed consent. Some participants highlighted that in the Indigenous context agroecological and agroforestry approaches are most effective when led by communities and adapted to specific ecosystems, and that land rights, territorial rights and FPIC are foundational conditions. Several participants also highlighted the importance of social protection, participatory approaches and skills development in supporting farmers, fishers and communities throughout transitions, noting the importance of income support and transition assistance to manage adjustment costs and protect livelihoods during periods of change.

2. Opportunities, best practices, actionable solutions, challenges, and barriers

113. Several participants highlighted a range of concrete policy approaches and best practices for supporting just transition pathways in food systems. Approaches cited included eco-schemes and agri-environment payments that financially reward farmers for adopting sustainable practices beyond baseline requirements, including agroforestry, crop diversification, organic farming and nutrient management; integrated food policy frameworks linking agricultural, climate, biodiversity, public health and land use objectives; and rural development measures supporting structural transformation, diversification, innovation and advisory services. Several participants also highlighted nationally determined circular economy frameworks as examples of integrated approaches that support both mitigation and adaptation, treating carbon not as a wasteful byproduct but as a resource that can support economic growth and food system sustainability. These were presented as examples of how nationally designed, context-specific pathways can deliver multiple objectives simultaneously without imposing prescriptive external approaches.

114. Several participants highlighted the explicit recognition of post-harvest infrastructure investments as an important actionable solution against food loss, including storage facilities, cold chains, processing capacity and transport infrastructure, noting that financing these investments through climate finance instruments would directly address a primary structural driver of food loss and simultaneously improve food security, strengthen value chains and reduce emissions. Participants also highlighted value-chain approaches that support processing, local value addition, cooperative development and improved market access for smallholder farmers and artisanal fishers as tools for ensuring equitable distribution of transition-related benefits.

115. Several participants highlighted the role of cooperatives, producer organizations and community-based governance structures as best practices for strengthening smallholder farmers' and fishers' position in food system transitions. Participants noted that such structures can improve market access, strengthen bargaining power and enable producers to retain a greater share of revenues while supporting locally led approaches to just transitions. Several participants also emphasized the potential of social innovation, including social dialogue, participatory governance and community co-design, as enablers of just transitions that complement technical and infrastructure solutions.

116. Several participants identified opportunities to strengthen the integration of Indigenous Peoples' knowledge, traditional knowledge and local knowledge systems into food system transitions through community-led, place-based approaches that are adapted to specific ecosystems and livelihoods. Participants emphasized the importance of long-term, predictable support and generational transmission of knowledge rather than short-term interventions, and highlighted the need for policies to create enabling conditions for locally led systems to thrive. Several participants also highlighted the importance of safeguards against the misuse or appropriation of traditional knowledge and community-managed genetic resources, and emphasized that engagement with Indigenous knowledge should be built on free, prior and informed consent.

117. Despite these opportunities, participants identified a number of persistent challenges and barriers. Many highlighted constraints related to finance, infrastructure, limited access to markets and technology, and institutional capacity for planning, coordination and implementation. Several participants noted that transitions may involve genuine trade-offs that require targeted support to manage fairly, including the risk that efficiency gains, intensification and digitalization concentrate benefits among larger operators at the expense of smallholder farmers, women, youth and informal agri-food workers. Participants also highlighted land tenure insecurity, limited recognition of customary rights and the risk of dispossession through poorly governed land, finance and conservation instruments as structural barriers. Some participants raised concerns regarding the implications of international sustainability standards, traceability requirements and trade-related measures for developing country producers and market access, emphasizing the importance of taking into account national circumstances, equity considerations and differing capacities, while other participants highlighted the role of such measures in advancing climate and environmental objectives and noted the support available to developing countries in meeting related requirements.

H. Ocean-based action in nationally determined just transition pathways that enhance food security

118. The session on this subtopic was facilitated by Leida Cea from the United Nations Human Settlements Programme (UN-Habitat).

1. Summary of discussions and key findings

119. Many participants emphasized the important role of ocean-based action in advancing just transition pathways that enhance food security, livelihoods, resilience and sustainable development, particularly for coastal communities, SIDS and LDCs. Participants highlighted that oceans and marine ecosystems underpin fisheries, aquaculture, employment in coastal communities, nutrition and local economies, and emphasized that ocean-based action should support both ecosystem health and socioeconomic well-being in a balanced and integrated manner. Several participants stressed that for many coastal and island countries, ocean-based food security is central to nationally determined just transition pathways, and that ocean-related activities including fisheries, aquaculture and coastal resource management must be treated as integral components of food system transitions.

120. Many participants emphasized sustainable fisheries and climate-resilient aquaculture as central components of ocean-based action in the context of just transition pathways, noting the need to strengthen resilience to climate impacts including ocean warming, acidification, ecosystem degradation and shifting fish stocks, while maintaining food production and livelihood opportunities. Several participants noted that climate change poses a significant and growing threat to marine and freshwater environments, with projections indicating substantial declines in coastal catches for some regions by mid-century, creating increasing uncertainty for fisheries governance and heightening risks for coastal communities. Several participants highlighted the importance of addressing working conditions, social protection, workforce development and livelihood security for workers in fisheries and related activities, and drew particular attention to the circumstances of small-scale fishers, workers in informal employment, migrant workers and women involved in fisheries processing and value chains, stressing that transition pathways should not transfer costs to those least able to bear them.

121. Several participants highlighted the mitigation dimension of ocean-based action, noting that protecting and restoring marine and coastal ecosystems, including mangroves, seagrasses, coral reefs, coastal wetlands and other blue carbon ecosystems, can deliver significant mitigation co-benefits while simultaneously supporting fisheries productivity, food security, biodiversity conservation, coastal protection and climate resilience. Some participants highlighted ocean alkalinity enhancement as an approach that could help stabilize ocean acidity and restore ecosystems, while also enhancing the ocean's absorption of carbon dioxide. Several participants noted that the Global Stocktake outcome invites parties to preserve and restore oceans and coastal ecosystems and scale up ocean-based mitigation action, and highlighted this as an important mandate for integrating ocean-based action into nationally determined just transition pathways. Some participants also highlighted the potential of ocean-based approaches to emissions reduction in the shipping and aquaculture sectors, including for example, the implementation of the International Maritime Organization (IMO) net zero framework which uses revenues from shipping greenhouse gas pricing to support developing country fishing fleets, including through funding for cleaner fuels, technology uptake and capacity-building and equitable adoption of low-carbon approaches.

122. Many participants emphasized the importance of rights-based and people-centred approaches in ocean-based just transition pathways. Many participants highlighted the need to safeguard access to marine resources, recognize customary tenure systems and protect the rights of Indigenous Peoples, small-scale fishers and coastal communities, including through free, prior and informed consent and meaningful participation in decision-making. Some participants raised concerns regarding the risk of exclusion, displacement and loss of access to resources associated with conservation measures, blue economy initiatives and ocean-based developments where affected communities are not adequately consulted. Some participants cautioned that marine conservation frameworks that establish protected areas, no-take zones or access exclusions, and that do so without community consent, alternative livelihood support or compensation, could amount to livelihood dispossession and should not be supported. Other participants highlighted the role of well-governed marine protected areas as enablers of resilient fisheries and coastal economies when designed with meaningful participation and linked to skills development, income resilience and social dialogue.

123. Several participants highlighted the importance of social dialogue and inclusive whole-of-society governance as enabling conditions for ocean-based just transition pathways. Participants noted that involving fishers, workers, Indigenous Peoples, local communities, women, youth, employers and local governments in the design, implementation and monitoring of ocean-related policies can strengthen legitimacy, anticipate distributional impacts and improve outcomes. Some participants highlighted integrated ocean governance frameworks that explicitly link ecosystem restoration with skills development, generational renewal, income resilience and social dialogue as approaches that can serve as models for people-centred ocean-based just transitions.

124. Some participants highlighted the impacts of ocean warming, sea-level rise, coral bleaching, coastal erosion and changing fish distributions on food security and livelihoods, and emphasized the importance of adaptation, resilience-building and, in some cases, responding to the loss and damage dimensions associated with ocean-related climate impacts. Some participants also raised concerns regarding certain fisheries governance arrangements and access agreements that have historically transferred economic value away from coastal communities rather than supporting local food security and livelihoods, while other participants emphasized the importance of well-designed cooperative frameworks that support sustainable fisheries, decent work and coastal development.

2. Opportunities, best practices, actionable solutions, challenges, and barriers

125. Several participants highlighted community-based marine resource management as an important best practice, noting that locally managed marine areas and similar arrangements that give communities formal authority over their marine resources can generate food security benefits, support biodiversity conservation and strengthen local livelihoods. Participants noted the importance of participatory governance approaches in which marine spatial planning, marine protected areas and ecosystem restoration programmes are co-designed

with small-scale fishers, women, Indigenous Peoples and coastal communities, and highlighted integrated ocean governance frameworks that link conservation, skills development, income resilience and social dialogue as examples of approaches that treat environmental and social outcomes as complementary rather than competing objectives. Some participants shared examples of community-based fisheries management areas, managed by fisheries unions, Indigenous communities and local groups with legal authority, that have demonstrated food security benefits, including the restoration of vulnerable species and the strengthening of coastal communities' economic and ecological resilience.

126. Several participants identified decent work and labour protections in fisheries and aquaculture as important actionable areas for ocean-based just transition pathways. Some participants highlighted the role of existing international labour standards as a framework for advancing just transitions from a labour perspective in ocean-based activities, and noted the importance of wider adoption of relevant instruments to strengthen protections for workers in fisheries and aquaculture, particularly for small-scale fishers, women in processing and value chains, and workers in informal employment. Some participants also highlighted national programmes providing financial support and incentives for fishers transitioning to low-carbon and climate-resilient aquaculture, including species adaptation support, equipment and infrastructure assistance, as concrete examples of nationally determined approaches to ocean-based just transitions.

127. Several participants highlighted blue carbon ecosystems, including mangroves, seagrasses and coastal wetlands, as important actionable solutions that simultaneously support mitigation, adaptation, fisheries productivity and food security. Some participants emphasized that blue carbon programmes are most effective when governed transparently, structured to deliver direct benefits to the communities managing the relevant ecosystems, built on robust consent processes and designed to resist capture by external intermediaries, ensuring that mitigation co-benefits serve coastal communities first. Several participants also highlighted the importance of ecosystem restoration, including the conversion of abandoned fish ponds and the restoration of degraded coastal habitats, as approaches that could create employment in the fisheries sector while enhancing carbon sinks and strengthening climate resilience.

128. Several participants highlighted the importance of incorporating ocean-based actions into national climate and development planning processes, including through NDC targets for marine protected areas, ecosystem restoration and sustainable fisheries, as a means of mobilizing finance and ensuring accountability. Some participants also highlighted the potential of technology transfer and capacity-building support for ocean-based sectors, particularly for LDCs and SIDS, including for climate-smart fisheries technologies, water management solutions and community-based water and food security infrastructure.

129. Despite these opportunities, participants identified a number of persistent challenges and barriers. Many highlighted the impacts of ocean warming, acidification, sea-level rise, coral bleaching, coastal erosion and shifting fish distributions on food security and livelihoods, particularly for coastal and island communities, and emphasized the importance of adaptation, resilience-building and, where necessary, responding to loss and damages. Several participants raised concerns about precarious employment, informal work, limited social protection and unequal access to opportunities in fisheries and related value chains. Some participants highlighted challenges related to inadequate consultation, exclusion from decision-making, displacement and loss of access to marine resources, as well as barriers to finance, technology and capacity-building. Several participants also raised the importance of ensuring that internationally designed frameworks for fisheries governance and certification reflect the realities of developing country producers, respect national sovereignty and are accompanied by adequate means of implementation support, noting that poorly designed external frameworks can transfer costs to developing country communities without providing commensurate benefits.

I. Looking ahead: the potential roles of the UAE just transition work programme and of the just transition mechanism

130. The session on this subtopic was facilitated by Ana Vukoje from the UNFCCC secretariat.

1. Summary of discussions and key findings

131. Many participants reflected on the body of shared understanding built progressively through the five dialogues held under the JTWP. Several participants highlighted the important role of the technical work under the JTWP in developing a holistic and multi-sectoral understanding of just transitions; the nationally determined nature of just transition pathways and their relationship to national climate planning instruments; the people-centred and whole-of-society dimensions of transitions including decent work, labour rights, social protection and the informal economy; the integral role of adaptation and climate resilience; and the socioeconomic, workforce and energy and other dimensions of just transition pathways based on nationally defined development priorities. Several participants drew attention to paragraph 12 of Decision 2/CMA.7 as it highlights the advancing of this joint understanding through the key messages it recognizes, with many participants noting that these should guide both the future work of the JTWP and the design and governance of the just transition mechanism. A number of participants also highlighted the mandate in paragraph 8 of Decision 2/CMA.7 for the JTWP to integrate relevant outcomes of the first Global Stocktake, noting the particular relevance of GST outcomes on food security, agriculture, deforestation and ocean-based action to the topic of this dialogue, while other participants emphasized that the dialogue and its outputs should not be linked to or used to directly inform other processes under the UNFCCC.

132. Many participants emphasized that the JTWP should continue to serve as a structured and Party-driven space for dialogue, the development of key messages and the provision of political guidance, while evolving towards a more outcome- and action-oriented phase focused on supporting countries in advancing nationally determined just transition pathways. Several participants noted that the accumulation of knowledge and insights across five dialogues, including on just transition pathways in relation to food security, agriculture and ocean-based action, provides a substantive foundation for both the review of the JTWP and the design and operationalization of the just transition mechanism, and stressed the importance of ensuring that the practical experiences and lessons shared in the dialogues are reflected in concrete support and implementation on the ground.

133. Participants devoted considerable attention to the potential roles of the just transition mechanism in advancing nationally determined just transition pathways for food security, including in agriculture and ocean-based activities. Several participants highlighted possible functions including: serving as a global knowledge hub consolidating and disseminating practical lessons and good practices from implementation; providing demand-driven technical assistance and capacity-building while avoiding duplication of programmes already underway; facilitating coordination and coherence among relevant institutions within and beyond the UNFCCC; providing guidance or signals to financial institutions on integrating just transition considerations into their portfolios; and serving as a matchmaking platform connecting countries with available technologies, expertise and financing. Several participants underlined the importance of the JTWP and the mechanism operating in a complementary and mutually reinforcing manner, with the JTWP retaining its role as a political and normative space, and the mechanism focused on implementation and knowledge-sharing. Some participants also highlighted the potential of the mechanism to address coordination gaps among the multiple financial actors operating under different mandates, risk frameworks and conditionalities, which several participants identified as one of the most significant barriers to implementation in the context of just transition pathways that enhance food security.

134. Several participants emphasized the importance of a function-first approach to the design of the mechanism, noting that its form and institutional architecture should follow from a clear definition of the functions it is expected to perform, and that new structures should be established only where existing mandates and institutions cannot meet identified

needs. Some participants highlighted the value of the secretariat's mapping exercise in this regard, noting that a thorough assessment of available support and existing gaps is a necessary precondition for any decisions on the mechanism's design. Other participants called for the mechanism to be operationalized at CMA 8 without deferral, arguing that transitions, including those in food systems, are already affecting communities across developing regions and that implementation support cannot wait for the conclusion of longer-term design processes.

135. Many participants stressed that work relevant to just transitions, including in the context of the implementation and review of the JTWP and operationalization of the mechanism, must remain Party-driven, nationally determined, non-prescriptive and grounded in the principles of equity and common but differentiated responsibilities and respective capabilities. Several participants emphasized that the mechanism must not promote a unified approach, issue universal guidelines or create new obligations, benchmarks or conditionalities for parties. Some participants cautioned that discussions in the dialogue should not prejudge or inform deliberations on the mechanism, which has its own dedicated submission and deliberative process. Others called on parties to be more proactive and specific in bringing forward concrete proposals, noting that sufficiently clear views on core functions have emerged from submissions and discussions to support progress on institutional design. Several participants also emphasized the importance of ensuring that constituencies, civil society organizations, subnational governments, workers, Indigenous Peoples, women, youth and other non-Party stakeholders have institutionalized roles in the mechanism governance, going beyond observer status, and that the mechanism should be accessible to the full diversity of actors central to food system transitions, including cooperatives, traditional authorities, municipalities and workers' organizations.

2. Opportunities, best practices, actionable solutions, challenges, and barriers

136. Several participants identified concrete opportunities to strengthen the contribution of the JTWP and the just transition mechanism to advancing nationally determined just transition pathways that enhance food security, including in agriculture and ocean-based activities. On knowledge generation and sharing, participants highlighted the opportunity to consolidate and disseminate the growing body of practical knowledge generated through the JTWP, including on food security, agriculture, fisheries and ocean-based action, through an accessible repository of case studies, lessons learned and implementation approaches, and through regional peer-to-peer learning and South-South cooperation platforms. Several participants suggested that the JTWP should continue to serve as a platform for thematic dialogues and political guidance working in tandem with the mechanism, particularly while the mechanism is being operationalized. Some participants also highlighted the need to ensure linkages with relevant UNFCCC processes, including the Koronivia Joint Work on Agriculture and the recommendations from the Ocean and Climate Dialogue.

137. On the functions of the just transition mechanism, some participants proposed the establishment of a technical assistance network that could help countries translate nationally determined just transition priorities relevant to food systems, agriculture and fisheries into programmes that can attract and absorb finance, coordinate capacity-building initiatives, link developing countries with relevant sources of support and monitor gaps in just transition assistance. Some participants proposed that the mechanism provide guidance to the operating entities of the Financial Mechanism and to multilateral development banks on integrating just transition considerations, including whole-of-economy and whole-of-society dimensions, into their portfolios and financing frameworks. Some participants also proposed a matchmaking function, noting that one of the most significant barriers to just transition in food systems is not only the lack of finance but the fragmentation of financial actors operating under different mandates and risk frameworks, and that the mechanism could actively connect countries with available technologies, expertise and financing while clarifying the distinct roles of different stakeholders in making transition projects viable.

138. On governance and institutional design, several participants called for the mechanism to be operationalized as a constituted body under the CMA at its eighth session, with a formal link established between JTWP dialogue outputs and mechanism operational decisions to ensure that needs identified in the dialogue rooms inform what the mechanism is directed to

support. Some participants proposed that the mechanism include both a political tier and a technical tier to enable it to fulfil both normative and operational functions. Several participants highlighted the importance of ensuring that the mechanism is accessible to the full diversity of actors central to just transition that enhance food security, and some proposed that technical assistance be available not only to national governments but also to subnational governments, workers' organizations, civil society and community organizations. Other participants cautioned, however, that discussions under the dialogue should not prejudice the design of the mechanism. On governance, some participants highlighted the importance of institutionalized roles for constituencies and non-Party stakeholders, going beyond observer status, and of building on paragraph 12 of Decision 2/CMA.7 as a guiding framework for the mechanism's design and operation.

139. On coordination and coherence, participants highlighted the value of strengthening linkages between the JTWP and relevant constituted bodies and workstreams under the Convention and the Paris Agreement, as well as with institutions working on food security, agriculture and ocean-based action beyond the UNFCCC. Participants underlined the importance of the mapping exercise in identifying what support is already available and where genuine gaps lie before establishing new structures, and proposed that the mechanism serve as a broker directing countries to existing support rather than duplicating it. Several participants also emphasized the importance of avoiding fragmentation and contrary guidance within the Paris Agreement architecture, noting that new institutional arrangements should complement and strengthen existing workstreams rather than create parallel processes.

140. Despite these opportunities, participants identified a number of challenges and persistent barriers. Many highlighted limited institutional capacity, fiscal space and debt burdens as structural constraints affecting countries' ability to design and implement nationally determined just transition pathways, particularly in food systems where priority interventions deliver high social value but limited commercial returns. Several participants emphasized that the mechanism must be grounded in a realistic assessment of budgetary constraints and the existing UNFCCC architecture, avoiding any duplication of work, and cautioned against decisions on design and operationalization that precede the completion of the mapping exercise. Other participants emphasized the urgency of early operationalization, noting the urgency of nationally determined just transitions that advance food security and that those communities that the mechanism is meant to serve are already bearing the costs of delayed implementation support.