OFFICIAL FEEDBACK FORM

DIALOGUE DATE	Tuesday, 27 April 2021 08:00 GMT -04:00
DIALOGUE TITLE	“Water: the game changer for food systems”
CONVENED BY	Dr. Agnes Kalibata, UN Secretary General’s Special Envoy to the Food Systems Summit; and Gilbert F. Houngbo, UN-Water Chair and President of the International Fund for Agriculture Development
DIALOGUE EVENT PAGE	https://summitdialogues.org/dialogue/7541/
DIALOGUE TYPE	Global
GEOGRAPHICAL FOCUS	No borders

The outcomes from a Food Systems Summit Dialogue will be of use in developing the pathway to sustainable food systems within the locality in which they take place. They will be a valuable contribution to the national pathways and also of interest to the different workstreams preparing for the Summit: the Action Tracks, Scientific Groups and Champions as well as for other Dialogues.

1. PARTICIPATION

TOTAL NUMBER OF PARTICIPANTS

PARTICIPATION BY AGE RANGE

	0-18	7	19-30	44	31-50	45	51-65	9	66-80		80+

PARTICIPATION BY GENDER

56	Male	39	Female	Prefer not to say or Other

NUMBER OF PARTICIPANTS IN EACH SECTOR

27	Agriculture/crops	6	Education		Health care
1	Fish and aquaculture	3	Communication	3	Nutrition
1	Livestock	1	Food processing	12	National or local government
	Agro-forestry	3	Food retail, markets	1	Utilities
44	Environment and ecology	5	Food industry		Industrial
	Trade and commerce	1	Financial Services		Other

NUMBER OF PARTICIPANTS FROM EACH STAKEHOLDER GROUP

5	Small/medium enterprise/artisan		Workers and trade union
3	Large national business		Member of Parliament
3	Multi-national corporation	1	Local authority
3	Small-scale farmer	23	Government and national institution
2	Medium-scale farmer	3	Regional economic community
	Large-scale farmer	11	United Nations
8	Local Non-Governmental Organization	3	International financial institution
17	International Non-Governmental Organization	4	Private Foundation / Partnership / Alliance
2	Indigenous People	1	Consumer group
14	Science and academia		Other

2. PRINCIPLES OF ENGAGEMENT

HOW DID YOU ORGANIZE THE DIALOGUE SO THAT THE PRINCIPLES WERE INCORPORATED, REINFORCED AND ENHANCED?

The organizing team paid careful attention to inclusivity by striving to invite individuals from diverse stakeholder groups, sectors, gender, and countries. This entailed going through various iterations of the invitation list, each convening institution drawing on their respective networks. The team strived for regional diversity. The number of participants from each region were as follows: Europe 34; North America 21; Latin America 8; Asia 18 ; Africa 18; Oceania 1. Facilitators were selected and briefed with care, to ensure they create a space for dialogue that is conducive to respect and trust. The discussion topics were designed to complement the exchanges and work carried out under the Sustainable Food Systems Programme. They captured multiple aspects and perspectives of the food systems and water nexus so as to embrace their complexity and linkage. Discussion topics also aimed to focus attention on some of the most complex or contentious issues.

HOW DID YOUR DIALOGUE REFLECT SPECIFIC ASPECTS OF THE PRINCIPLES?

The Dialogue reflected the principles of complexity, respect and trust as planned for the design. Discussions in the groups were open and enriching for participants. The principle of inclusivity was very strong, as had been aimed for in the design phase, due to the fact that all those who registered attended. The majority of participants was from Europe but there was good balance in terms of regional representation as well as stakeholder diversity, including farmers. All participants embraced the principle of “acting with urgency”, recognizing the importance of accelerating the pace of change in their recommendations and demonstrating commitment to act. All were committed to contribute to the Food Systems Summit preparation and follow-up, recognizing it is an important milestone to catalyse further action on food systems. They emphasised the importance of continuing the dialogue on water and food systems after the event.

DO YOU HAVE ADVICE FOR OTHER DIALOGUE CONVENORS ABOUT APPRECIATING THE PRINCIPLES OF ENGAGEMENT?

It is important to pay utmost attention to the composition – namely diversity in the invitation list – and to plan for the fact that not all invited will attend. Furthermore, in the case of international online events, the “no-response”/“no-show” is likely to be higher amongst individuals who live in low income countries, where access to and reliability of Internet may be more challenging. It can therefore be useful to invite more individuals from these regions to ensure they are well represented during the event itself. It is also very important to select and brief the facilitators carefully to ensure they are not pushing their own agendas but instead creating a space for all to express themselves and listen to each other Finally, formulating the discussion topics so that they point to critical issues will help avoid rather superficial conclusions that stop at common areas of consensus.

3. METHOD

The outcomes of a Dialogue are influenced by the method that is used.

DID YOU USE THE SAME METHOD AS RECOMMENDED BY THE CONVENORS REFERENCE MANUAL?

✓ **Yes** **No**

4. DIALOGUE FOCUS & OUTCOMES

MAJOR FOCUS

The dialogue focused on the nexus between food systems and water systems, doing so in a way that acknowledges linkages to other systems that are fundamental to the SDGs (e.g. energy, climate, oceans).
The discussion topics addressed this nexus from complementary perspectives:
• The five Food Systems Summit Objectives and Action Tracks:
o ensure access to safe and nutritious food for all,
o shift to sustainable consumption patterns,
o boost nature-positive production,
o advance equitable livelihoods, and
o build resilience to vulnerabilities, shocks and stress.

• Key themes and challenges related to the water-food-energy nexus that are also emerging from dialogues held at regional and country levels, such as governance, cross-sectoral collaboration, investments and innovation and knowledge.

Achieved outcomes
The global dialogue contributed to the following outcomes:
• Build awareness about the key role of water in sustainable and equitable food systems
• Identify water-related propositions relevant to the five Food Systems Summit Action Tracks
• Ensure water is considered as part of the major issues and recommendations that are taken to the Food Systems Summit through the various work streams (action tracks, levers of change, dialogues, scientific group)
• Identify key issues regarding the nexus between water systems and food systems that should also be addressed in the water-related policy forums and agenda (e.g. 2023 United Nations Conference on the Midterm Review of the Water Action Decade)

The 9 discussion topics were:
1. Food production increases and diversifies to meet growing demand for nutritious foods while minimizing water use and protecting freshwater sources in the context of climate change (thereby boosting water availability for other uses – domestic, industry, environment and livestock).
2. Water-related consumption patterns of all stakeholders in the food systems – from consumers to industry and producers – optimize water use (for processing and packaging, food loss and waste, etc.) to ensure sustainable access to clean water for healthy people and a healthy environment.
3. Integrated watershed and agro-ecosystem management allows access to safe (pollution-free) and sufficient water for food production and human consumption while preserving or regenerating environmental water requirements (forests, lakes, groundwater recharge).
4. The human right to water and sanitation and the right to food are achieved conjunctly by all people everywhere – in particular low-income households, marginalized groups, women and youth – having fair, sustainable and equitable access to safe drinking water and sanitation, and water for food production, processing, and consumption including food safety.
5. The resilience of water systems in the face of climate change is strengthened to meet the competing demands of agriculture, domestic use, industry and environmental flows.
6. The cross-sectoral and transboundary strategies and cooperation required to ensure water-food-energy security for all and ensure environmental sustainability are in place (jointly managed systems minimize trade-off and maximize synergies).
7. The governance of water resources (in terms of policy coherence, institutional coordination and access rights) at multiple levels – farm, water basin, country, region – support equitable access to and sustainable use of water resources for food, health and energy.
8. The investments – public and private – required to optimize water use efficiency in our food systems and protection of water resources are mobilized and effectively used, and investments in unsustainable water uses discouraged.
9. Science, innovation, and data access from multiple disciplines and traditional knowledge are harnessed to increase the efficiency of water systems for food, sanitation, industry and the environment.

ACTION TRACKS

- ✓ Action Track 1: Ensure access to safe and nutritious food for all
- ✓ Action Track 2: Shift to sustainable consumption patterns
- ✓ Action Track 3: Boost nature-positive production
- ✓ Action Track 4: Advance equitable livelihoods
- ✓ Action Track 5: Build resilience to vulnerabilities, shocks and stress

KEYWORDS

- ✓ Finance
- ✓ Innovation
- ✓ Human rights
- ✓ Women & Youth Empowerment
- ✓ Policy
- ✓ Data & Evidence
- ✓ Governance
- ✓ Trade-offs
- ✓ Environment and Climate

MAIN FINDINGS

In terms of recommendations for action, the following themes emerged across the discussion groups, demonstrating the inter-relations between all the discussion topics:

No water = no food:
Resolving issues around water scarcity, pollution and wastage is crucial for transforming food production and consumption. The demand for food is increasing: while almost 800 million people are currently hungry, by 2050 global food production would need to increase by 50% to feed the more than 9 billion people projected to live on our planet. However, the annual amount of available freshwater resources per person has declined by more than 20% in the past two decades. Whether it is irrigation or whether it is the water we receive through rain-fed agriculture, water is one of the food systems elements that is most taken for granted. The way we value and manage water is central to how we make our food systems resilient and sustainable for future generations.

Food loss and waste = water loss and waste:
When water is wasted, food is wasted and when water is scarce, food is scarce. One-fourth of freshwater consumed in global food production is effectively wasted since the food produced with this water is never consumed. Reducing food loss and waste is a clear entry point to mitigate water scarcity.
Reducing food loss and waste optimizes water use.

Food producers = water managers:
The way in which water is used in agriculture is no longer sustainable. We know that irrigation accounts for more than 70% of global water withdrawals. Farmers, with specific emphasis on smallholders, are essential actors and food producers are among the world's most important water managers. Farmers could benefit from education programmes, including through an improved version of farmer field schools which aims to ensure two-way communication, collective learning and co-design principles.

Technical solutions and innovation:
Innovation should incorporate the fact that water in agriculture is strongly linked to land tenure and distribution, climate change policies, energy and urbanization policies. Innovative technologies are increasingly important to manage scarce water resources, e.g. desalinization, drip irrigation, harvesting rain water in the face of climate change to meet the competing demands of agriculture, domestic use and industry/energy requirements. Innovative policies will allow better management of competition across various nexus domains, highlight trade-offs and synergies, and reduce conflict risks. Regenerative agriculture, including the storage of water in the soil, seed selection, rebuilding soil biodiversity will improve the water cycling in agricultural systems. Safe wastewater reuse in agriculture is a promising solution particularly in peri-urban settings.

Governance:
Sustainable water use is enhanced by integration of all sectors in conservation including farmers, governments, the private sector and the general population. Governments would benefit from access to high-quality data to develop sustainable water policies. Good governance is essential to mitigate negative forces that impact water management through establishing policies and setting up regulatory frameworks that provide the right incentives. This requires a departure from the 'sectoralist' policies to embrace a cross-sectoral approach including food, health, energy and others. Even though investments can optimize and foster sustainable water technologies and processes, the path to water security needs to rely on the right laws and institutions that work to ensure that water sustainably.

Inclusion:
There is a need for an inclusive participatory process that gives a voice to marginalized and vulnerable communities, indigenous peoples and future generations. Such empowerment and the democratizing of decision and policymaking can foster the trust between relevant stakeholders that is required to leverage synergies and manage trade-offs between different interests, while ensuring that no-one is left behind. This implies a fundamental shift in the way water is valued, in which water not just understood as a commodity, but instead as core to life, livelihoods and culture. Significant part of the traditional knowledge remains with communities that are detached from technology and bringing their wisdom to the benefit of the broader communities and making it accessible requires deliberate effort.

Investments:
Investments link to many themes above; e.g. investments in technology that helps manage water better, but need for a governance context that guides investments. This must come alongside a series of region-specific or context-specific indicators, indicating what each SDG, especially those relevant to food and water security, means for each regional setup in terms of investments. Investments can play a significant role in improving water security by recognizing the economic value of water, which should be an essential component for investment mechanisms. Public-Private Partnerships are an essential instrument within water and irrigation systems, but there has been a lack of innovative developments in that field. These tools would help investors identifying the direct and indirect impacts of their investments. The value/role of aquatic foods should also be considered. Connections between biodiversity and ecosystems and the benefits you can get from having a water management scheme need more attention.

ACTION TRACKS

- ✓ Action Track 1: Ensure access to safe and nutritious food for all
- ✓ Action Track 2: Shift to sustainable consumption patterns
- ✓ Action Track 3: Boost nature-positive production
- ✓ Action Track 4: Advance equitable livelihoods
- ✓ Action Track 5: Build resilience to vulnerabilities, shocks and stress

KEYWORDS

- ✓ Finance
- ✓ Innovation
- ✓ Human rights
- ✓ Women & Youth Empowerment
- ✓ Policy
- ✓ Data & Evidence
- ✓ Governance
- ✓ Trade-offs
- ✓ Environment and Climate

OUTCOMES FOR EACH DISCUSSION TOPIC - 1/9

1. Ensuring access to safe and nutritious food and safe water
"Food production increases and diversifies to meet growing demand for nutritious foods while minimizing water use and protecting freshwater sources in the context of climate change (thereby boosting water availability for other uses - domestic, industry, environment, and livestock)."

The discussion group was quite diverse in terms of gender, country, expertise, and stakeholders ranged from youth to seniors, innovators, public and private sector representatives, and international organisations. The group attempted to answer the provided questions with focus on ensuring access to safe and nutritious food and safe water. There was clear consensus on the:
• need to foster connection between the food and the water systems;
• lack of understanding of the value of water (freshwater system);
• mismatch on how to treat the natural resources and freshwater in relation to food system;
• food production misses a system approach understanding and implementation;
• lack of data to better understand the system;
• need for mapping our understanding and natural process, regardless of the many solutions that exist;
• lack or harmonization of the legal dimension (water law, management, protection, governance, etc.);
• need to shift as users and consumers our interactions with water and food systems (improve efficiency and productivity and reduce waste); and
• need for higher inclusion of local communities, youth, indigenous populations, etc.
In response to the above, the group highlighted a number of actions:
• Map freshwater systems for greater understanding
• Understand the status of irrigation systems as most water consumers
• Actively engage local communities, youth, and women in the design, development, and implementation of solutions and interventions
• Promote innovation, technologies, and smart agriculture to save water for safe food
• Promote and establish the legal protection of water bodies, similar to forest protection
• Raise government awareness of systemic approach
• Promote the recycling and reuse of each water drop to improve its value
• Produce nutritious food: shift from cropping food to nutritious food
Surprisingly, no areas of divergence amongst participants were identified. The group was able to connect its thoughts and ideas to focus on the problem and proposed solutions.

ACTION TRACKS

✓	Action Track 1: Ensure access to safe and nutritious food for all
✓	Action Track 2: Shift to sustainable consumption patterns
✓	Action Track 3: Boost nature-positive production
✓	Action Track 4: Advance equitable livelihoods
	Action Track 5: Build resilience to vulnerabilities, shocks and stress

KEYWORDS

✓	Finance	✓	Policy
✓	Innovation	✓	Data & Evidence
	Human rights	✓	Governance
✓	Women & Youth Empowerment	✓	Trade-offs
		✓	Environment and Climate

OUTCOMES FOR EACH DISCUSSION TOPIC - 2/9

2. Sustainable consumption patterns for water and food
Water-related consumption patterns of all stakeholders in the food systems – from consumers to industry and producers – optimize water use (for, processing and packaging, food loss and waste, etc.) to ensure sustainable access to clean water for healthy people and a healthy environment.

Participants agreed that water was key to food security and underpinned all 17 Sustainable Development Goals. Water plays a role at all stages of the value chain, and we cannot continue using water to the same extent that we are now. Sustainable consumption of water requires global solutions, the effects of which would be felt at the local-level.

One participant highlighted three key areas needed to ensure sustainable access to clean water, which framed a large portion of the discussion. These included (1) developing a unified agreement in the water space on what was important, (2) developing a suite of solutions for the global community to act on, and (3) developing a people-focused call to action to raise the profile of water.

A key solution would be to break down the silos in the water community. Sustainable water use comes from integration, with the involvement of people from all sectors in conservation. This includes farmers, governments, the private sector, and the general public. Farmers could benefit from education programmes. Governments would benefit from access to high-quality data, allowing for the development of sustainable water policies. There would need to be a paradigm shift in the private sector, away from a risk-management perspective to an approach of water stewardship. Additionally, there is tension in terms of trade-offs and competition between different parts of the water sector which needed to be addressed. For the general public, sustainable consumption would require individuals coming closer to the understanding that water is sourced directly from nature and is essential to life. It would also be necessary to focus on local-level and community management, which would require building trust among all stakeholders.

To a certain extent, participants diverged in terms of to what extent they thought the key issue was water scarcity vs. inefficient use of water. Those who framed the primary issue as inefficient use noted that technology and innovation could improve water-use efficiency and water productivity. These participants emphasized that increased demand for water and food requires excess capacity. However, others framed the primary issue as one of water scarcity, emphasizing an increased focus on sustainable consumption through awareness raising. For example, one participant noted that the agriculture sector focuses too heavily on measures that promote “more crop per drop” at the expense of generating awareness around sustainable consumption.

Finally, participants highlighted the urgency of the issue. One participant noted that the global community would need to perform a miracle to integrate water action into SDG 17. Another noted that deforestation constantly makes front page news but water is being lost at a faster rate, and raised the question of why we are “here now when we’ve known that we’ve had a problem for so long?”.

ACTION TRACKS

✓	Action Track 1: Ensure access to safe and nutritious food for all
✓	Action Track 2: Shift to sustainable consumption patterns
✓	Action Track 3: Boost nature-positive production
✓	Action Track 4: Advance equitable livelihoods
✓	Action Track 5: Build resilience to vulnerabilities, shocks and stress

KEYWORDS

	Finance	✓	Policy
✓	Innovation	✓	Data & Evidence
	Human rights	✓	Governance
	Women & Youth Empowerment	✓	Trade-offs
			Environment and Climate

OUTCOMES FOR EACH DISCUSSION TOPIC - 3/9

3. Boost/increase nature positive production of food through water management
"Integrated watershed and agro-ecosystem management allows access to safe (pollution-free) and sufficient water for food production and human consumption while preserving or regenerating environmental water requirements (forests, lakes, groundwater recharge)."

• Obstacles: Corruption, psychological resistance, barriers to knowledge and technologies, lacking and counter-productive incentive structures, financing and inadequate enabling environment (incl. legislation/regulation).
• Cross-cutting actions
o Inclusion: include marginalized populations, including women, indigenous groups, and youth, and guarantee equitable opportunities through support measures (e.g. subsidies).
o Awareness-raising on farming practices and technologies as well as sustainability and equity issues
o Governance: Political, institutional and legal change on the national level is central to transition to less water-intensive and more environment-preserving practices. Regulation needs to be developed and enforced, e.g. through rights-based approaches and enforcing voluntary standards.
o Effective financing: Effective financial mechanisms/instruments are required to support these changes.
o Systems thinking: Stakeholders need to shift from thinking in silos or two dimensions only to system approaches (e.g. water-energy-food nexus) including climate change considerations. Address trade-offs proactively through assessment tools on the landscape level and food systems.
• Farmers as managers of land and water resources with fair financial incentive structures around: Farmers should be seen as both water consumers and conservers as they are de facto managers of not only their lands but a significant part of everyone's water resources. This responsibility/service – if done sustainably – should be rewarded through appropriate incentives.
• Promotion of and access to knowledge and technological innovation: Farmers and other stakeholders need better access to existing innovations and prototypes incl. awareness raising and capacity building. Innovators need better incentives and structures to proliferate their innovations. Knowledge of indigenous and marginalized groups must be promoted. Exchange visits between farmers can be a very effective mechanism. Governments need to pass required legislation and can support through subsidies and other means. Innovations can also substantially increase accountability
o Innovation partnerships and market-based solutions: Develop new technologies through partnerships of researchers, private sector, finance, and end users.

• Irrigation efficiency and crop selection: Irrigation as key intersection pertaining water use in agriculture requires capacity building and technological support for farmers for more efficient and crop-specific irrigation practices. Potential decrease in water consumption of up to 50%. Simultaneously, promote water-efficient and nutrient-rich crops (e.g. quinoa) while avoiding those with strong negative environmental impacts (e.g. crops for certain biofuels that have high economic value) and their support structures.

Non-conventional water sources: A shift towards using non-conventional sources of water needs to take place across sectors. Awareness raising crucial due to strong psychological resistance.

ACTION TRACKS

✓	Action Track 1: Ensure access to safe and nutritious food for all
✓	Action Track 2: Shift to sustainable consumption patterns
✓	Action Track 3: Boost nature-positive production
✓	Action Track 4: Advance equitable livelihoods
	Action Track 5: Build resilience to vulnerabilities, shocks and stress

KEYWORDS

✓	Finance	✓	Policy
✓	Innovation	✓	Data & Evidence
✓	Human rights	✓	Governance
✓	Women & Youth Empowerment	✓	Trade-offs
		✓	Environment and Climate

OUTCOMES FOR EACH DISCUSSION TOPIC - 4/9

4. Advance livelihoods and equity through safe water
"The human rights to water and sanitation and the right to food are achieved conjunctly with all people everywhere – in particular low-income households, marginalized groups, women, and youth – having fair, sustainable and equitable access to safe drinking water and sanitation, and water for food production, processing, and consumption including food safety."

Participants shared a range of perspectives to advance livelihoods and equity through water:

1) It is crucial to recognize the paradoxical nature of the global water crisis considering that we live on the "water planet"; in this regard, it was emphasized that the water crisis closely relates to water systems' health, quality, and sustainability rather than to water scarcity.

2) Leveraging the rights to water and water allocation mechanisms were foundational measures to advance livelihoods and equity through water.

3) Advanced water management technologies (such as drip irrigation, sewage water harvesting and treatment, water desalinisation, prevention of food and water waste, etc.) and sustainable, integrated land and water management schemes were described as paramount to materializing enhanced livelihoods and equity.

4) The role of synergies across sectors and action tracks is central (e.g. landscape and value chain approaches, the water-food-energy nexus, etc.). There is a need of sound water governance, and tailored and coherent food systems/related policies, developed in close collaboration with indigenous people and farmers (e.g. the New Zealand example).

Additional considerations include the "intergenerational equity" aspects ("if more water is spent now, there will be less water in the future"), resilience ("considering that not everybody is exposed to the same risks"), and data ("data enable water valuing and good water governance").

ACTION TRACKS

✓	Action Track 1: Ensure access to safe and nutritious food for all
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✓	Action Track 4: Advance equitable livelihoods
✓	Action Track 5: Build resilience to vulnerabilities, shocks and stress

KEYWORDS

✓	Finance	✓	Policy
	Innovation	✓	Data & Evidence
✓	Human rights	✓	Governance
	Women & Youth Empowerment		Trade-offs
		✓	Environment and Climate

OUTCOMES FOR EACH DISCUSSION TOPIC - 5/9

5. Build resilience to vulnerabilities, shocks and stress
"The resilience of water systems in the face of climate change is strengthened to meet the competing demands of agriculture, domestic use, industry, and environmental flows."

Participants focused on how to build the resilience of water systems in the face of climate change to meet the competing demands of agriculture, domestic use, industry/energy, and environmental water requirements. There was a focus on regenerative agriculture, including the storage of water in the soil, seed selection, and rebuilding soil biodiversity, all of which improve the water cycling in agricultural systems. The continued degradation of soil through agriculture makes droughts much more severe. Regenerative agriculture offers a solution following nature's principles. The fact that the most agriculture in Africa is rainfed was raised, pointing to the need for systems that predict rainfall for small farmers given that hydrological patterns are impacted by climate change. Rainwater harvesting can also offer part of the solution. The need to use natural systems including floodplains was discussed, farming that is compatible with flooding can maximize benefits. Three main needs were identified:
1) Systems transformation – this transformation is knowledge-intensive, requiring research, monitoring and learning, e.g. small farmers can benefit from a better understanding of when and how much to irrigate. More knowledge about grey/green infrastructure is needed.
2) Better policies– since local action is critical, how can policy impact this level. Faith-based organizations and municipal level actors are key. At the same time, national, regional and global policies can help create an enabling environment. Financial incentives need to change.
3) Changemakers – change will come through the "movers and shakers"; these champions must be empowered to lead. The group agreed that water should be firmly established in the FSS, however, only one of the 25 "game changers" in Action Track 5 focuses on water.

ACTION TRACKS

✓	Action Track 1: Ensure access to safe and nutritious food for all
✓	Action Track 2: Shift to sustainable consumption patterns
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✓	Action Track 4: Advance equitable livelihoods
✓	Action Track 5: Build resilience to vulnerabilities, shocks and stress

KEYWORDS

	Finance	✓	Policy
✓	Innovation	✓	Data & Evidence
	Human rights		Governance
✓	Women & Youth Empowerment	✓	Trade-offs
		✓	Environment and Climate

OUTCOMES FOR EACH DISCUSSION TOPIC - 6/9

6. Inter-sectoral cooperation to ensure water-food-energy security and environmental sustainability
"The cross-sectoral and transboundary strategies and cooperation required to ensure water-food-energy security for all and ensure environmental sustainability are in place (jointly managed systems minimize trade-off and maximize synergies)."

Proposed ideas to ensure water-food-energy security and environmental sustainability:
- Stop providing free electricity to incentivize lower electricity/water usage.
- Raise awareness to the manageable interconnections between water and food systems and break down silos of communities.
- More sustainable ways of ensuring we have water security; e.g. more efficient drip irrigation systems, harvesting rainwater, and improved storage for rainwater.
- Intersectoral national policies.

Key messages:
- The value/role of aquatic foods should be considered, not only land-based foods.
- There needs to be more investment in RandD for drought-resistant crops, crops with high nutrition profiles, and improved irrigation schemes for rural communities.
- Must consider the perspectives of farmers and communities who use water resources (and how they use them) when planning water management strategies.
- There should be greater collaboration between the development partner and the private sector.

Points of consensus:
- For a systems transformation there is a need to both consider the small-scale, looking at the communities and farmers, and the larger scale, a landscape or water basin approach, to address several sectors at the same time; focus on investing in a large number of small projects, rather than a small number of large projects.

ACTION TRACKS

✓	Action Track 1: Ensure access to safe and nutritious food for all
✓	Action Track 2: Shift to sustainable consumption patterns
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✓	Action Track 4: Advance equitable livelihoods
✓	Action Track 5: Build resilience to vulnerabilities, shocks and stress

KEYWORDS

	Finance	✓	Policy
✓	Innovation	✓	Data & Evidence
✓	Human rights	✓	Governance
✓	Women & Youth Empowerment		Trade-offs
		✓	Environment and Climate

OUTCOMES FOR EACH DISCUSSION TOPIC - 7/9

7. Governance
"The governance of water resources (in terms of policy coherence, institutional coordination, and access rights) at multiple levels (farm, water basin, country, region) support equitable access to and sustainable use of water resources for food, health and energy."

This session spoke of the ways in which water resources are (to be) managed effectively to address divergent societal and planetary needs. Participants from different national perspectives shared the ways in which water security is contingent on having appropriate systems in place to process and distribute water equitably. Existing systems would often prove unable to deliver satisfactory results. Multiple participants noted that the need for adequate governance becomes even greater when water resources are strained because of environmental pressures. Participants mentioned a range of factors negatively impacting water security, including climate change, pollution, lack of awareness about sustainable water management, lack of political will, and power imbalances between relevant stakeholders. They agreed that governance is essential in order to mitigate these factors through establishing policies and setting up regulatory frameworks that provide the right incentives and are conducive to effective water resource management. There was consensus, however, that this can only be effective and equitable when it is informed by the values and interests of all stakeholders concerned. This requires a departure from the 'sectoralist' policies that often define governance, and the embrace of a cross-sectoral approach that takes into consideration perspectives of the many sectors that rely directly on water, including food, health, energy, and others. Participants stressed the need for a genuinely inclusive participatory process that gives a (preferential) voice to marginalized and vulnerable communities and future generations. Such empowerment and the democratizing of decision- and policy-making can foster the trust between relevant stakeholders that is required to leverage synergies and manage trade-offs between different interests while ensuring that no-one is left behind. This implies a fundamental shift in the way water is valued, in which water is not just understood as a commodity, but instead as core to life, livelihoods, and culture.

ACTION TRACKS

✓	Action Track 1: Ensure access to safe and nutritious food for all
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KEYWORDS

✓	Finance	✓	Policy
✓	Innovation	✓	Data & Evidence
	Human rights	✓	Governance
	Women & Youth Empowerment	✓	Trade-offs
		✓	Environment and Climate

OUTCOMES FOR EACH DISCUSSION TOPIC - 8/9

8. Investments
"The investments – public and private – required to optimize water use efficiency in our food systems and protection of water resources are mobilized and effectively used, and investments in unsustainable water uses discouraged."

Investments can play a significant role in improving water security by recognizing the economic value of water, which should be an essential component for investment mechanisms. However, investments should not focus solely on efficiency but mainly on aggregated water use. Primarily thinking about aggregated water consumption and treating efficiency as essential but insufficient is critical for sustainable investments. So, it's important to understand that, in the end, it's the total water use what we are trying to reduce. Moreover, it is essential to adopt a holistic approach that avoids isolating water as if it were disconnected from other elements along the food supply chain. Water is unquestionably a necessary input for food security and systems, but further inputs such as seed, fertilizers, pesticides, soils, and virtual water should also be considered. When this package is put together, government, farmers, and the private sector come together to make better usage of all those resources combined. Regarding farmers, they must be acknowledged as the number one investor in food systems, and their agricultural water management practices ought not to be discounted.

PPPs are an essential instrument within water and irrigation systems, but there has been a lack of innovative developments in that field. Furthermore, it is crucial to recognize that they are not the same as public-private dialogue, and there is a significant gap in the way this dialogue is being implemented. This is key to putting the "invisible" actors and factors in the spotlight, making water use more transparent to everybody in the system, help to understand who is affected, and creating synergies between isolated actions. This has proven to be effective in reducing social conflicts linked to water scarcity in Africa and India. In addition, efforts to spread and optimize the use of digital technology for sustainable management of water in what refers to monitoring and data-collection mechanisms are necessary for evidence-based decision making. These tools would help investors identify the direct and indirect impacts of their investments. This would be an excellent water governance approach.

Furthermore, education efforts focused on stakeholders must be encouraged to promote sustainable water use because there is a widespread misunderstanding about the meaning and terminology within this topic, as it usually means different things to different people. When spreading awareness about water sustainability, it is essential to communicate it so the various stakeholders along the food supply chain and water streams can see themselves as beneficiaries. That is a great motivational force. Regarding the empowerment of women and youth, it is critical to give them leadership and responsibility by providing them with tools such as terms of reference and deliverables to help them mobilize and promote further engagement.

Even though investments and related initiatives by different actors can optimize and foster sustainable water technologies and processes, the path to water security needs to rely on the right laws and institutions that work to ensure that water is sustainably managed. This must come alongside a series of region-specific or context-specific indicators, clearly indicating what each SDG, especially those relevant to food and water security, means for each regional setup in terms of investments. Global indicators are not enough.

ACTION TRACKS

✓	Action Track 1: Ensure access to safe and nutritious food for all
✓	Action Track 2: Shift to sustainable consumption patterns
✓	Action Track 3: Boost nature-positive production
✓	Action Track 4: Advance equitable livelihoods
	Action Track 5: Build resilience to vulnerabilities, shocks and stress

KEYWORDS

✓	Finance	✓	Policy
	Innovation	✓	Data & Evidence
	Human rights		Governance
✓	Women & Youth Empowerment	✓	Trade-offs
		✓	Environment and Climate

OUTCOMES FOR EACH DISCUSSION TOPIC - 9/9

9. Innovation and data for water and food systems
"Science, innovation, and data access from multiple disciplines and traditional knowledge are harnessed to increase the efficiency of water systems for food, sanitation, industry and the environment."

Four distinct headings emerged from the discussions:

1. Data and information
1.1. Data must be made available to everyone at every level. With a large amount of data available from all kinds of sources, the challenge is to make it available and usable to all. A global, open data platform must be made available ASAP.
1.2. Availability of data should be complemented by measures to make it usable by all that need and can benefit from it. Sophisticated processing, modeling, and analytics are currently not easily accessible nor have interoperability efforts resulted in a convergence. A deliberate and coordinated effort is needed to make this happen, with a slightly longer term than ASAP, perhaps 1-2 years.
1.3. Users of data must be bridged. Topic, sector, issue-based silos and fragmentation work against 1.1 and 1.2 and can undermine them. Bridging across these is fundamentally needed and must be explicitly addressed.
1.4. While the action by governments is essential, a strategic partnership bringing together the private sector, technology firms (including those doing analytics), and the scientific community must be sought from the beginning. Warning: sometimes, government-imposed technologies may be sub-optimal, outdated or biased (Central Asia is a historical example).
1.5. Farmers, with specific emphasis on smallholders, must be involved, including through a reformed/improved version of farmer field schools (FFS), which aims to ensure two-way communication, collective learning and co-design principles.
1.6. The work on data initiated by the High Level Panel on Water needs follow up and can serve/contribute to/complement the above.

2. Traditional knowledge and wisdom
2.1. Significant part of the traditional knowledge remains with communities that are detached from technology; bringing their wisdom to the benefit of the broader communities and making it accessible requires deliberate effort. Initiatives exist (UNESCO, FAO, ICID, academia, others?) but are not coordinated. This coordination can/must start ASAP.
2.2. Re-dissemination and incorporation of indigenous knowledge into policies and practices should be preceded by a validation process. Warning: Not all traditional knowledge is necessarily applicable or desirable.
2.3. Indigenous knowledge and disrupting technologies can harmonize.
2.4. The FFS described in 1.5 can serve the purposes of reaching out to and connecting with communities, validation, and re-dissemination.

3. Softer issues (policy, governance, nexus, equity)
3.1. Governance structures of the past century are fast becoming a barrier to technology and innovation: a reform is inevitable.
3.2. Policy innovation that is based on scientific soundness and that brings in private sector dynamism will trigger action in many domains involved.
3.3. Innovated policies and governance structures will allow for better management of competition across various nexus domains, highlight trade-offs and synergies, and reduce conflict risks.
3.4. Innovation should consistently look after gender equity and equality, smallholder farmers, and youth.
3.5. Innovation should be able to incorporate the fact that water in agriculture (and water for food security) is strongly linked to land tenure and distribution, climate change policies, energy security and urbanization policies.

4. Specific highlights
4.1. Disrupting technologies can make circular economy solutions cheaper (less investment), more profitable (better economic outcomes), more horizontally sustainable (across sectors/resources), and more modular. Support for RandD and start-ups essential.
4.2. Wastewater and water harvesting bear much promise.
4.3. Water quality (fit for purpose) is another highlighted topic.
4.4. Green energy solutions with water explicitly or implicitly incorporated.
4.5. ODF and multiple use of water are promising areas. Nepal serves as an example.

ACTION TRACKS

- ✓ Action Track 1: Ensure access to safe and nutritious food for all
- ✓ Action Track 2: Shift to sustainable consumption patterns
- ✓ Action Track 3: Boost nature-positive production
- ✓ Action Track 4: Advance equitable livelihoods
- ✓ Action Track 5: Build resilience to vulnerabilities, shocks and stress

KEYWORDS

- ✓ Finance
- ✓ Innovation
- ✓ Human rights
- ✓ Women & Youth Empowerment
- ✓ Policy
- ✓ Data & Evidence
- ✓ Governance
- ✓ Trade-offs
- ✓ Environment and Climate

AREAS OF DIVERGENCE

There was no divergence among the participants of group 1, 3, 4, 5, 6, 7, 8, and 9. The only divergence was among the participants of group 2:
To a certain extent, participants diverged in terms of to what extent they thought the key issue was water scarcity vs. inefficient use of water. Those who framed the primary issue as inefficient use noted that technology and innovation could improve water-use efficiency and water productivity. These participants emphasized that increased demand for water and food required excess capacity. However, others framed the primary issue as one of water scarcity, emphasizing an increased focus on sustainable consumption through awareness raising. For example, one participant noted that the agriculture sector focuses too heavily on measures that promote "more crop per drop" at the expense of generating awareness around sustainable consumption.

ACTION TRACKS

✓	Action Track 1: Ensure access to safe and nutritious food for all
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KEYWORDS

	Finance		Policy
	Innovation	✓	Data & Evidence
	Human rights		Governance
	Women & Youth Empowerment		Trade-offs
		✓	Environment and Climate