

OFFICIAL FEEDBACK FORM

DIALOGUE DATE	Tuesday, 18 May 2021 14:00 GMT +01:00
DIALOGUE TITLE	The role of livestock in developing a sustainable food system
CONVENED BY	Prof. Frank O'Mara, Teagasc
DIALOGUE EVENT PAGE	https://summitdialogues.org/dialogue/16079/
DIALOGUE TYPE	Independent
GEOGRAPHICAL FOCUS	Ireland

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

55

PARTICIPATION BY AGE RANGE

0-18

4

19-30

34

31-50

13

51-65

4

66-80

80+

PARTICIPATION BY GENDER

30 Male

25 Female

Prefer not to say or Other

NUMBER OF PARTICIPANTS IN EACH SECTOR

12 Agriculture/crops

Fish and aquaculture

7 Livestock

Agro-forestry

5 Environment and ecology

Trade and commerce

Education

3 Communication

1 Food processing

Food retail, markets

4 Food industry

1 Financial Services

2 Health care

4 Nutrition

5 National or local government

Utilities

1 Industrial

Other

NUMBER OF PARTICIPANTS FROM EACH STAKEHOLDER GROUP

4 Small/medium enterprise/artisan

5 Large national business

1 Multi-national corporation

4 Small-scale farmer

Medium-scale farmer

1 Large-scale farmer

5 Local Non-Governmental Organization

1 International Non-Governmental Organization

Indigenous People

11 Science and academia

Workers and trade union

Member of Parliament

2 Local authority

13 Government and national institution

Regional economic community

United Nations

International financial institution

1 Private Foundation / Partnership / Alliance

Consumer group

Other

2. PRINCIPLES OF ENGAGEMENT

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

When planning the event, every effort was made to invite participants reflecting as broad a range of backgrounds and perspectives as possible in order to have an inclusive and balanced debate. Training was provided to Facilitators and Note-takers in advance of the event to outline the purpose, methodology and Principles of Engagement, emphasising that differing viewpoints are welcome and encouraged. At the event, the Principles of Engagement were outlined in detail to the participants by the Convenor before breaking up into the Discussion Groups to ensure an open, diverse and inclusive debate of the issues.

HOW DID YOUR DIALOGUE REFLECT SPECIFIC ASPECTS OF THE PRINCIPLES?

The event began with two keynote presentations – one on EU livestock in a sustainable agriculture sector, outlining both benefits and challenges, and the second on communicating science and engaging the public. These excellent presentations contributed to setting a tone of openness and inclusivity, reflecting the contribution and complexity of livestock production within the agricultural sector and rural communities, as well as the importance of balanced debate and scientific evidence in leading society and policy.

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

Training is critical to ensure all contributors are well informed of the approach and principles of UN Food Systems Summit Dialogues.

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

Livestock production systems are an essential part of the EU and global food system and can convert feed that is inedible for humans into food. In Ireland, livestock production is a major part of the agricultural sector, with over 90% of total agricultural area dedicated to grass production for ruminant grazing and feed. The sector supports the livelihoods and economies of regions, contributes to rural vitality in particular in marginal areas and is an intrinsic part of the cultural landscape. Sustainable livestock farming can make an important contribution to climate change mitigation and biodiversity protection, however many questions arise that have room for debate as we consider the role of livestock production in our future food system.

Given the socio-economic importance of the sector to Ireland and the general debate in Europe surrounding meat consumption as part of future sustainable diets, the theme of this Dialogue was the “role of livestock in developing a sustainable food system”, encompassing the entire food chain from farm to fork in a systems perspective. In selecting this broad topic, many societal issues of importance are evoked, including economic viability of rural communities, social vitality and resilience, environmental protection and enhancement and consumer decision-making and empowerment. Furthermore, all of the UN Food Systems Summit Levers of Change have relevance (gender, human rights, finance and innovation). With this in mind, seven topics within this broad theme were elaborated which focus on critical aspects or enablers of future sustainable livestock production systems:

1. Livestock products as part of a healthy diet
2. Rural livelihoods
3. Environmental sustainability
4. Animal welfare and anti-microbial resistance
5. Technologies for the future
6. Food versus feed competition
7. Communicating science

Each of the Discussion Groups elaborated a vision for 2030 based on their theme, drawing on a diverse group of participants from across the food system to consider the actions and actors needed to realise this ambitious vision.

Prior to the Discussion Groups, excellent keynote presentations were made by two eminent scientists: Dr. Jean-Louis Peyraud, Deputy Scientific Director at INRAE (French National Research Institute for Agriculture, Food and Environment) and Prof. Luke O’Neill, Professor of Biochemistry and an immunologist at Trinity College Dublin. These scientists framed the Dialogue and provoked some discussion points on the role of livestock in sustainable food systems, as well as the challenges of communicating science and combatting misinformation.

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

Livestock production systems will continue to make a critical contribution towards the European diet and agricultural sector in 2030. However, significant efforts are needed to ensure that safe, nutritious and affordable food produced in environmentally sustainable systems is available and enjoyed by all, rural livelihoods and areas are protected and value is distributed equitably. This Dialogue discussed many different aspects of livestock as part of a sustainable food system, incorporating views from across the research, farming/producers, NGOs, industry, business and policy communities. It identified three key action areas or enablers of change which need to be implemented in the next years to achieve a more sustainable food system.

Firstly, the policy system will need to evolve to deliver better outcomes for farmers and society. This should include supports to incentivise and remunerate farmers for both food and ecosystem services, encourage environmentally-friendly farming and support high-welfare systems. A coherent rural or land-use policy (across agriculture, forestry, energy, environment, rural development, local planning policy) is urgently required to promote holistic governance and coherent decision-making. This will help to avoid, for example, growing food for animal consumption and optimise land use and management towards sustainability goals. Targeted supports will be needed to ensure a fair and just transition and open up new opportunities for farmers, enterprises and artisan producers. Support for the diversity of emerging sustainable livelihood strategies will be critical, including education and training, as well as demonstration and scaling up of innovative approaches. Generational renewal will need to be reinforced, providing support for young people including women and new entrants. Policy supports to ensure the market generates a fair return to producers will be critical also if more sustainable, and possibly more costly, products are to dominate.

A second key enabler of change centers on the idea of 'knowledge fueling action'. This relates to leveraging science, research, collaboration, data and new technologies to enhance decision-making among all of the actors in the food chain and in policy. This will include measurement systems across the food chain to track progress and enhance transparency. Better labelling of food products, including nutrition and sustainability credentials, will empower consumers to make informed and healthy choices. Knowledge for society will be needed to communicate the transformations led by farmers to enhance environmental indicators and animal health and welfare in sustainable farms. Knowledge for adoptive and adaptive capacity will support rural livelihoods through enterprise evolution and transformation. Knowledge for policy will ensure that decision-making is founded on the scientific evidence base.

Finally, change must be supported by public discourse involving many voices that bring diverse perspectives and science-based evidence. Consumers need to be better understood and their voice brought more into the debate, recognising that there are many different 'publics' with differing views. Clearer communication and messaging is needed with consumers, which will require a greater level of consensus and collaboration across the whole food system. As seen during the Covid-19 crisis, scientists remain a trusted source of information for society and they will need to play an ever increasing role in public discourse to ensure that data and evidence on food systems is available and easily understood.

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OUTCOMES FOR EACH DISCUSSION TOPIC - 1/7

DISCUSSION TOPIC 1: Vision Statement - "Livestock products will contribute to healthy diets"

This discussion focussed on the role of livestock food products in healthy and sustainable diets in 2030. There was general consensus on the desired outcomes to achieve the vision, but some divergence as to the pathways and specific actions.

Among the actions identified was the need for consumers to adopt national healthy eating guidelines. To support this, clear communication with understandable, simplistic definitions will be needed, as well as labelling to empower consumers. More science-based facts should be available to consumers and education on healthy and sustainable food consumption needs to be supported from an early age. A focus on dietary patterns rather than individual components will also be important. There was divergence of opinion among the participants as to (i) how to measure and communicate the nutritiousness and sustainability of livestock products, (ii) whether we should adopt a more plant-based diet and minimise livestock or not and (iii) whether increased consumption of animal production should be promoted from a nutritional perspective.

It was agreed that mobilisation of key actors along the food chain will be needed, including citizens/consumers, state and national regulatory authorities, celebrities, farmers and fishers, the national food board (Bord Bia), chefs and retailers. Some divergences emerged as to the need for food processors and manufacturers to be involved.

Some critical factors for enabling progress towards healthy and sustainable diets were identified. It was agreed that the message to consumers should be simple and that greater awareness of the connections between food and health and also national guidelines be fostered. Two enabling technologies were identified as important: digital labelling identifying beneficial nutrients in unpackaged/unprocessed foods (particularly those we are deficient in) and nutritional analysis of the entire shopping basket (phone-based app based on scanned produce).

The participants proposed that they could support these changes by ensuring a greater level of consensus on core messages, by embedding healthy food and nutrition in institutional structures and by seeking out common ground and building on it. It was proposed that cooperation between the relevant government ministries (Department of Agriculture, Food & the Marine and Department of Health) be strengthened and that efforts be reinforced to work towards agreement on the national 2030 Agri-Food Strategy.

The participants identified some tension points in the progress towards healthy and sustainable diets with regard to opposing views on nutrition, for example, in relation to the findings of the EAT-Lancet report. Consensus and collaboration between the two relevant government departments should also be improved in terms of food labelling and dietary recommendations.

In summary, the group strongly agreed that clearer communication is essential for enacting change in our diets and that a greater level of consensus & collaboration is urgently required, based around a single, succinct message within the food system. The importance of labelling in empowering consumers to make informed and healthy choices is also critical.

Some challenges/tensions can be expected however. In certain cases, farmers are seen as the problem and not part of the solution. New entrants to dairy production are also constrained by growing environmental regulation. In relation to afforestation, barriers to adoption include its permanence, loss of social welfare pension and ineligibility for Farm Assist. A lack of focus on older person in relation to farm partnerships was also highlighted. In terms of organic and artisan food production, there is a lack of focus on market development. There is a critical need for markets to generate a fair return to producers if development of sustainable livestock systems is to be successful. Finally, coherent rural / land use policy (across agriculture, forestry, energy, environment, rural development, local planning policy) is urgently required.

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OUTCOMES FOR EACH DISCUSSION TOPIC - 2/7

DISCUSSION TOPIC 2: Vision Statement - "Development of sustainable farm livelihoods by equipping farmers and farm households with the transformative capabilities to adapt their enterprise and household strategies to the evolving natural, technological and policy environment, in producing and marketing food and providing public goods"

This discussion focused on ensuring sustainable and resilient rural livelihoods in the future agricultural production and food system. A wide range of topics were discussed with strong consensus, resulting in three main outcomes. Due to the complexity of the issues for farmers and farm households (different viability challenges for different cohorts (age, system, region)), it was agreed that actions must involve systems solutions. Collaborative approaches with farmers at the centre, e.g. EIP-Agri in new CAP, will also be needed. It will be important to develop stakeholder capacity to innovate in the area of smart, green growth and to match resources for skills development with local need to support remote areas having low employment opportunities. In terms of supports, two key areas were identified: (i) support for well-served resilient rural communities, including investment in rural broadband and community supports, and (ii) supports for inclusive farm generational renewal.

All rural stakeholders should be involved, with farmers at the centre of solutions. Rural communities, research, education, extension providers and rural supports will need to be mobilised. Furthermore, 'Our Rural Future', the Irish government's new policy for the post-COVID-19 recovery and development of rural Ireland should be implemented through an 'all-of-government' approach.

Key factors in bringing these actions to fruition were discussed. Greater diversification opportunities for livestock farmers will be critical, including enterprise change, innovation and adaptation, as well as value-added farm processing and direct selling. Market development support is needed for the latter to be realised. Greater support for vulnerable farm families has to be provided, and more support for women in agriculture (access to land/capital, more options for retirement/partnership). Farm families will also need to have better, more flexible off-farm employment opportunities, in particular attractive employment opportunities in well-served rural digital hubs.

The group identified several benefits of taking such actions. Adopting a systems approach will support a move from silo thinking to bringing all elements together. These actions will also support capacity development, leading to diffusion of learning among rural communities. Digitalisation can bring multiple benefits across the entire food system. More adaptable, resilient local economies and food systems will also be enabled. To support these actions, it was agreed that for farmers/farmer networks and advisors, mentors will be critical to supporting young farmers, farm and non-farm diversification, partnerships/collaborative arrangements and succession. Training and development agencies can support capacity development through knowledge exchange, training and upskilling/reskilling. The development of 'community ecosystems' were seen as an important step, as well as the promotion of innovation and good practice through case studies.

In summary, the group agreed three elements for sustainable rural livelihoods in 2030. Firstly, there must be support for the diversity of emerging sustainable livelihood strategies, including maximising productivity/ efficiency from a single enterprise, portfolios of farm enterprises (including the environmental enterprise) and a blend of farm/non-farm activities.

Secondly, knowledge exchange and capacity development will be critical:

knowledge for policy measures and for society – communicating the transformations led by farmers to enhance air and animal health and welfare, water quality, biodiversity, carbon sequestration and

knowledge for adoptive and adaptive capacity, through enterprise evolution and transformation.

Finally, generational renewal needs to be reinforced through access to land for younger people and succession support.

ACTION TRACKS

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OUTCOMES FOR EACH DISCUSSION TOPIC - 3/7

DISCUSSION TOPIC 3: Vision Statement - "Irish agriculture will continue to meet the global demand for livestock food produced within planetary boundaries, being an exemplar of environmentally friendly, economically and socially viable production"

The participants agreed that intensification has been driven by cheap food and, in the future, the price of food has to reflect ecosystem services. Demand for ecosystem services should be supported: this will provide an income without intensification of agricultural production. Another critical element is the adaption of outputs to land capacity. There is also a need for rapid knowledge transfer in implementing what is already known across the value chain. There is currently a huge amount of mixed messages and we need to work towards a consensus view. There was some divergence of opinion as to sustainability and intensification and how to achieve a balance – whether we should hold intensification until we determine whether it can be done within sustainability boundaries and whether to balance with farm income.

A broad range of actors will need to be mobilised, including players in the full supply chain, retailers/wholesalers, consumers, marketers, the organic value chain and government (to support the higher cost of organic/high environmental standard food). Consumers' willingness to pay was also identified as a key consideration.

Key factors and enablers in bringing these actions to fruition include implementation of Article 9 regulation for a fair marketplace, as well as food price measures to divert more of the share to primary producers. Another critical element is food origin and sustainability labelling. Better policy formulation in general is needed and more focus on implementing the existing measures to achieve environmental targets. It was proposed that more flexibility in the on-going implementation of the EU Common Agricultural Policy (CAP) and more national control over the CAP is needed, and that we should reduce our dependence on the CAP as the solution to all issues.

The benefits/impacts of implementing the agreed actions include helping to address the climate and biodiversity emergency and avoid a potential food security emergency. We could also achieve a better balance between food and the other outputs from land. A reduction in overconsumption/waste would occur due partly to advertising/influencing producers and consumers. We would generate unambiguous data about sustainability and our food system and solutions to problems. Environmental impacts would also be reduced by producing food where it is most environmentally positive rather than cheapest.

To support these actions, we need to rely on science and the evidence base and to keep communication clear. Education of the wider community, not just farmers, will be needed. Enabling demonstrable change will require a bit of 'bravery' to bring about better policy. Policy/measures to address cheap food and divergence in standards are needed and the gap in pricing between the final product and farmer receipt widened. We also need to deliver on the environmental outcomes that are being funded through the CAP. Finally, we need to urgently mobilise efforts to enact change in a system which can deliver more for the environment and for farmers.

Tensions and challenges will need to be managed, however. These include the viability of farmers at different prices, the CAP reform process, control of the market and the cost of food, which is currently too cheap and leading to intensification.

In summary, the participants agreed that there is an urgent need for change, both from a production and an environmental perspective. We need to fundamentally alter the policy system to deliver better outcomes for farmers & society. In addition, farmers need to be paid more for both food and ecosystem services.

ACTION TRACKS

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OUTCOMES FOR EACH DISCUSSION TOPIC - 4/7

DISCUSSION TOPIC 4: Vision Statement - "High farm animal welfare standards, which are compatible with human welfare and protection of the environment, ensure prudent antimicrobial use and socially acceptable food production"

The participants were in agreement on some key actions that need to be taken urgently to achieve this vision, with some divergences on the approach to be adopted. The main actions identified were better communication platforms between stakeholders involved in animal production and better use of health/performance data. A move towards more extensive/regenerative systems and outdoor access into current systems (e.g. for pig farms) was also highlighted. Global interventions for animal health issues to eradicate disease will be needed, as well as additional payment for animals produced to higher standards (e.g. antibiotic-free). Policy will need to change to eliminate the need for farmers to achieve economies of scale in order to make a living from farming.

The key actors that need to be involved include producers, regulators, financiers of big agriculture, OIE, educators (especially on the link between welfare and performance), certification bodies and risk assessors. Consumers will need to be educated on the true cost of sustainable/welfare-friendly food, however a divergent view also emerged that consumers don't necessarily have much power to make change – they buy what is on the shelf. Vets have a role in encouraging producers to optimise vaccination programmes to reduce risk of disease and AMU. Teagasc can also provide education on herd health and vaccination and promote transdisciplinary research to incorporate welfare measures into non-welfare projects. Processors can support better animal welfare by paying a higher price for higher standard products. Implementation of policy must be in tandem with supports and resources and communication should be improved between producers and industry (e.g. good in dairy, room for improvement in pig sector at the moment).

In order to enact change, targeted education programmes for producers and processors will be needed, as well as improved labelling/certification, benchmarking of animal welfare on farms and incentives for higher standards. Research on higher welfare and performance is needed, in addition to risk assessments along the food chain. Precision livestock farming and better use of existing data were also proposed; however, technology was not seen as a panacea and may impose higher costs on farmers.

The proposed actions will lead to real benefits: higher welfare systems, reduced GHG emissions and anti-microbial usage, enhanced human welfare and greater support for rural communities. Possible negative impacts include the potential emergence of new disease risks (e.g. Avian influenza) and greater biosecurity risks due to more small farms.

Some challenges identified to enacting change include GDPR, which may inhibit open communication, tension between intensification and extensive farming in terms of biosecurity and lack of ownership of some of the constraints by some stakeholders.

In summary, there was consensus that moving to high animal welfare production systems offers a win-win situation for all but there was concern over its seeming incompatibility with the (supposed?) intensification required to achieve food security. Novel/extensive/regenerative systems (those included in the 'circular' food system model) could pose new biosecurity/emerging disease threats that need to be considered as this would jeopardise the high 'animal welfare production system' model. Finally, incentives for farmers to change to high welfare systems are required at retail and policy level.

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OUTCOMES FOR EACH DISCUSSION TOPIC - 5/7

DISCUSSION TOPIC 5: Vision Statement - "Technologies will play a substantial role in the provision of fair, safe and sustainable supply chains ensuring a responsible use of natural resources and a reduction of food loss and waste, making sustainability the easy choice for consumers"

This discussion group focussed on the role of technology in the 2030 food system, in particular in relation to enhancing sustainability across the food chain. The participants were mostly in consensus on their discussion points, with only some divergence on particular actions to be implemented.

It was agreed that smart technologies have a major role to play across the full supply chain, from soil to food, and that blockchain will be an important tool for enhancing transparency in the system. Critical actions to be undertaken include identifying the gaps in knowledge, data and technology, increasing engagement and supporting education in the area. Incentives will also be required to scale-up promising approaches and tools. Divergences of opinion emerged as to the use of genetics as a tool and culling among herds to improve efficiencies.

A wide range of actors will need to be mobilised to fully exploit the potential of technologies in the sector. This includes the government (Department of Agriculture, Food and the Marine), state agencies (Teagasc, Irish Food Board (Bord Bia)), farmers and farm organisations, breeders (e.g. Irish Cattle Breeding Federation (ICBF)), co-operatives, consumers (especially future generations), scientists including social scientists, industry and environmental actors.

Critical to implementing these actions will be financial incentives and technical support for users and support services. Demonstration of systems and data will also be important to ensure technology take-up. Communication & education forums will help to enhance engagement and up-skill different groups. Finally, citizen science, as a growing field of study, can be utilised to enhance buy-in and co-develop innovative solutions.

The benefits of enacting these changes in the current food system will be to improve the value of agricultural products and to enhance efficiencies across the value chain. Economic returns can be expected through reduced labour, improved profitability and greater acceptance of livestock products. Finally, medicine use can be reduced through smart management of production systems and welfare standards improved. The participants identified contributions they could make through measurement and provision of real-time data, independent validation of methodologies and education for farmers on the use of smart technologies.

The greatest tensions identified by the participants centred on how to define efficiency in livestock production systems, how to deal with inefficiencies, especially in relation to animals, and who bears the cost of these new technologies.

In summary, the participants agreed that a data-driven approach is key to identifying the best return on investment but this requires collaboration. Measurement systems are required across the food supply chain, keeping in mind that transparency is important. To maximise the potential of technologies in enabling fair, safe and sustainable supply chains, concerted efforts will be required to scale up and provide targeted education, including incentives & supports.

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OUTCOMES FOR EACH DISCUSSION TOPIC - 6/7

DISCUSSION TOPIC 6: Vision Statement - "Feed/food competition should be eliminated"

This discussion group explored the topic of competition between feed and food in future agricultural systems and what role human-edible feed should have in the diet of animals. There was consensus on several discussion points but also some divergent views. It was agreed that food and feed competition should be minimised and that this should occur through optimised land management at national, EU and global level. This will require a complete re-think of how policy is implemented at these levels, e.g. climate policy currently operates at national level which may increase food-feed competition.

It was agreed that animals form an important part of the cycle of capturing CO2 via photosynthesis for conversion to carbohydrates for human consumption. In particular in Ireland, ruminants play a very valuable role in converting biomass that is not edible by humans, grown in areas that are not well suited to crop production. In relation to particular actions to be implemented into the future, the participants proposed that consideration should be given in national greenhouse gas emissions accounting to move to consumption-based accounting as opposed to country of production-based accounting. It was agreed that there is significant confusion among consumers – that they are lacking robust, clear, factual information from verified sources on the topic of livestock production and that actions are needed in that respect to enhance communication with consumers.

Divergences of opinion emerged as to whether the land-use ratio should be employed more when evaluating ruminant production. This ratio could examine if a livestock system contributes to feed-food competition by comparing the current animal protein against the potential plant protein production from that land area and provide insights into how to optimise land-use management. There was also disagreement about whether non-ruminant production makes sense in Ireland or not in the context of feed versus food competition.

To enable these actions to come to fruition, reliable data should be available to the public, including through a fact-checker website. More sophisticated branding of agricultural products providing consumers with verified information on sustainability aspects, such as energy and water use and the land-use ratio, will also be needed. There were different views among participants as to whether communication should be less based around science, and instead the opportunities presented in ruminant systems to convert forage to protein should be highlighted.

Key actors that need to be mobilised to support these actions include consumers, policy makers, scientists and public agencies. The participants were divided as to whether the media should have a key role.

The participants agreed that a possible impact of these actions would be the use of locally-produced by-products as feedstuffs in livestock production systems (e.g. residues of fruit or vegetables and by-products of agro-industry), with less dependence on imported protein sources. However, it was acknowledged that an "all-ruminant" island could lead to negative impacts on biodiversity. There was disagreement as to whether non-ruminant animal numbers should be capped based on the supply of these by-products. Communication on research findings would be needed to support these efforts and convert research results into implemented solutions.

If ruminant production is to be prioritised in order to reduce feed/food competition, the greatest tension identified was in relation to how to support a fair transition to a livestock sector based on a single industry – alternative opportunities would have to be provided to farmers.

In summary, it was agreed that we need to utilise land in a way that avoids growing food for animal consumption. There is an urgent need for verifiable, factual information for all stakeholders. Significant efforts in relation to education, communication and public engagement will therefore be needed. Finally, a fair transition is needed to create new opportunities.

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KEYWORDS

- | | | | |
|-------------------------------------|---------------------------|-------------------------------------|-------------------------|
| <input type="checkbox"/> | Finance | <input checked="" type="checkbox"/> | Policy |
| <input checked="" type="checkbox"/> | Innovation | <input checked="" type="checkbox"/> | Data & Evidence |
| <input type="checkbox"/> | Human rights | <input checked="" type="checkbox"/> | Governance |
| <input type="checkbox"/> | Women & Youth Empowerment | <input checked="" type="checkbox"/> | Trade-offs |
| <input type="checkbox"/> | | <input type="checkbox"/> | Environment and Climate |

OUTCOMES FOR EACH DISCUSSION TOPIC - 7/7

DISCUSSION TOPIC 7: Vision Statement - "All actors work together to create reliable and trustworthy sources of information rebuilding public and consumer confidence and trust in the science underpinning our sustainable food system"

This discussion group explored the role of science communication in enabling a better future for food systems in 2030. The first of the key actions agreed by the participants was the need to understand the consumer and include the consumer voice in the debate. It must also be recognised that there are many different 'publics' with different points of view and they should be involved in the co-creation of projects with societal impact. Trust in science has increased (e.g. SFI Science in Ireland Barometer 2020, IPSOS Veracity Index 2020) and we need to include more scientists in the communication, which should be underpinned by training for scientists in public communication. They should also be facilitated to allocate time to communication and receive rewards/recognition for such work. Scientists should be consistent, truthful and open in their communication and be willing to acknowledge what they don't know, as this promotes confidence among the public. Consistent and proven proof points on sustainability issues should be developed at a national and EU level to support collaboration and build trust. Making evidence more readily available, including solid data sources and fact-checking capabilities, was also deemed critical.

The key actors that will need to be mobilised to support these efforts include consumers (encompassing a 'range of publics'), more scientists, industry, media, research institutes and universities. It was proposed to build the principle of 'science capital' into all aspects of communication.

The potential impact of such actions would be to enhance trust in science, which has already increased during the pandemic. There was some divergence in relation to trust in science on food, however, with some perceptions that when it comes to food, other factors are at play and consumers tend to rely on other sources of information, that may not be underpinned by scientific evidence. Participants agreed that communications should be aimed at those who trust and believe in science, rather than the detractors. For some complex, emotive topics, such as animal welfare, we need to adopt a systems approach to communicating and understanding the complexity of the issues. The use of social media was an area of divergence. There was a view that agencies and scientists don't engage enough on social media and should have clear messages. There is a need for better conversations on the science and to have more informed scientists involved in the debate.

In summary, it was agreed that we need to understand the consumer better and involve the consumer voice more in the debate. We need to recognise the many different 'publics' with different points of view and listen to them. Consistent and proven proof points need to be developed on, e.g. environment for industry. Trust in science has increased – we need to include more scientists in the communication and be willing to say what we don't know. Training in public communication is needed and rewards provided for allocating time to it. Data and evidence needs to be made more readily available and fact-checking facilities created.

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

AREAS OF DIVERGENCE

The greatest divergences of opinion that emerged during the Dialogue were in relation to how we can optimise the contribution of the livestock sector in the future to a sustainable and equitable food system providing safe, healthy and nutritious food to consumers. At the system level, livestock production was discussed in terms of sustainability goals and intensification and how to achieve a balance. Some participants felt intensification should be limited until we can determine whether it can be done within sustainability boundaries, while others suggested it should be balanced with farm income. Culling among herds to improve efficiencies was another divisive issue that emerged. There were also differences of opinion on the use of genetics as a tool.

Within livestock systems, there was debate regarding ruminant and non-ruminant animal production. Participants had differing views as to whether non-ruminant production makes sense in the future in Ireland if we are to optimise our land use. Some felt that the land-use ratio should be employed more when evaluating ruminant production in order to assess whether livestock systems contribute to food-feed competition, as well as over-dependence on feed imports.

Another area of divergence related to empowering consumers with the information needed to make sustainable and nutritious decisions. Participants differed on how to measure and communicate the nutritiousness and sustainability of livestock products and also whether increased consumption of animal production should be promoted from a nutritional perspective. There was also some discussion as to whether we should adopt a more plant-based diet and minimise livestock or not. It was agreed that efforts are needed to educate consumers on the true cost of sustainable/welfare-friendly food, however, some participants felt that consumers don't necessarily have much power to make change – it depends what is available for them to buy. While it was agreed that trust in science had increased, in particular during the pandemic, some participants felt that other factors come into play in relation to food and that consumers tend to rely on other sources of information that may not be underpinned by scientific evidence.

Finally, social media emerged as a major topic for debate in the Discussion Groups following the keynote presentation by Prof. Luke O'Neill on communicating science and engaging the public. Some participants felt that scientists don't engage enough in social media and have an important role to play in dispelling misinformation and providing clear, factual messages underpinned by scientific evidence. However, others felt that social media does not provide a forum for balanced debate and is often used to discredit or undermine scientific consensus.

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