The Marseille Call

Agriculture as a strategic partner for water security

Preamble

We, participants in the 26th ICID World Congress, representing Ministries of Agriculture, Water and Environment, international organisations, universities and research centres from over fifty countries, gathered in Marseille, France, from 12 to 17 October 2026, issue this *Marseille Call* to advance water security, food security and climate resilience. The Marseille Call is a non-binding political declaration and a voluntary framework for cooperation. It does not create legal obligations for its participants but reflects their shared vision and respective determination to strengthen international cooperation and collective effort in support of these common objectives.

We recognize that water and agriculture are inseparable. There can be no food security without sustainable water management. Agriculture, as the foundation of food security, accounts for the largest share of global freshwater withdrawals. Its footprint varies widely across regions and farming systems, yet it shapes watersheds, soils, ecosystems and the water cycle worldwide. It therefore has both a responsibility and an opportunity to contribute to water security.

This role must be fulfilled amid growing and interconnected pressures on water resources and food systems. Climate change is intensifying drought risks, heat stress and hydrological variability, while broader environmental pressures, including land degradation and pollution, are reducing the quality and availability of usable water. At the same time, population growth, urbanization and changing consumption patterns are increasing demand for water, food and land. Together, these dynamics are heightening competition over the resources and deepening inequalities in access to water, land and irrigation, particularly in the most vulnerable areas. Rising temperatures are also raising crop water requirements and essential water needs for livestock watering and protection, especially during periods of extreme heat and drought.

Farmers are on the front line of these considerable challenges, but their exposure and capacity to adapt vary significantly according to the climatic, agricultural and environmental context of their territories. We recognize that sustainable investment in agricultural water management can strengthen the climate resilience of rural communities. Agriculture must therefore no longer be regarded solely as a water user, but as a strategic partner for water security, sustainable land management and drought resilience. The agricultural water transition must be guided by a long-term perspective, ensuring that today's investments and policies do not create tomorrow's vulnerabilities, while respecting national circumstances, priorities and applicable national laws.

We welcome the growing recognition of water as a global political priority. We build upon the momentum created by the Global Forum for Food and Agriculture to better integrate agriculture into global water governance. The 26th ICID World Congress provides an opportunity to consolidate a limited set of shared, science-based and action-oriented messages on agriculture and water. Participants may voluntarily draw on these messages in relevant political and

technical discussions, in accordance with their respective mandates and national circumstances, including in the context of the 2026 United Nations Water Conference, the Conferences of the Parties on desertification and climate change, and the 11th World Water Forum in 2027.

Against this background, the Marseille Call sets out five shared priorities as areas for voluntary cooperation, to be pursued through cross-sectoral cooperation and coordinated efforts at all relevant levels. These five priorities are not presented in hierarchical order. They are intended to reinforce one another and to guide voluntary action across policy, investment, knowledge and field implementation.

1. Aligning agricultural systems with water, soil and climate realities

We underscore the need to build agricultural systems that are more resilient to drought, water scarcity and excess water.

This requires better water management at farm level by combining rainfed and irrigated agriculture where appropriate, advancing water conservation, demand management and smart irrigation practices that improve water-use efficiency.

Integrated water–soil–crop management is equally essential. Farmers should be supported in tailoring crop selection, diversification strategies and agroecological practices to local resource constraints. We recognize healthy soils as productive assets that enhance water retention, sustain crop productivity and strengthen the resilience of farming systems.

These transformations will only endure if they are economically viable and beneficial to farmers. Agricultural water management should improve livelihoods and increase the economic, social and nutritional value generated from available water resources. Where appropriate, stronger links between agricultural production, markets and value chains can help secure viable farmer incomes, reduce food losses and strengthen resilient agri-food value chains.

2. Making agriculture a steward of water and land resources

We recognize farmers as key stewards of land and water, and agricultural systems as providers of essential ecosystem services. Farming practices directly influence the health of watersheds, aquifers and aquatic ecosystems, while contributing to the resilience of rural communities.

These contributions should be recognized and supported. Integrated land management at landscape and watershed levels can reduce soil erosion and land degradation, enhance water infiltration and groundwater recharge, mitigate flood risks, protect and restore natural water buffers, and reduce pressure on freshwater resources. To achieve genuine water conservation, farm-level efficiency gains

should translate into reduced overall pressure on water resources at watershed and aquifer levels.

We encourage efforts to protect water quality by preventing diffuse pollution and reducing agricultural runoff. This includes limiting nutrient and pesticide losses through agroecological practices, complemented, where appropriate, by precision approaches.

3. Planning and managing resilient, diversified agricultural water systems

We encourage integrated planning at the appropriate level and stronger cross-sectoral coordination, in accordance with national circumstances, to strengthen the resilience of agricultural water systems to climate variability and shocks. Land-use, water and agricultural policies should jointly consider local resource constraints and anticipate long-term hydro-climatic trends, seasonal variability, droughts and floods. Such planning should be supported by transparent, participatory governance and context-appropriate water allocation frameworks, consistent with national priorities and laws. These approaches can help protect rural communities and maintain reliable access to water for agriculture.

Delivering this reliability requires climate-resilient infrastructure and service-oriented irrigation management. We emphasize the maintenance, modernization and, where appropriate, redesign of existing irrigation, drainage, water-harvesting and storage systems, as well as the development of new infrastructure where justified by the context. Their planning and design should anticipate future hydrological conditions and support agroecological transitions. Context-appropriate green and grey solutions can make these systems more multifunctional, multi-use, flexible and responsive to droughts and floods.

We also recognize that the resilience of agricultural water systems can be further strengthened by optimizing existing resources and responsibly developing non-conventional sources, where appropriate. Treated wastewater reuse should be recognized as a strategic option for agriculture and supported by risk-based planning, fit-for-purpose standards, balanced consideration of costs and benefits, adequate monitoring and farmer support throughout the reuse chain.

4. Mobilizing finance for sustainable agricultural water management

In many parts of the world, agricultural water systems remain structurally underfunded. We encourage, in accordance with national circumstances, investment in water for agriculture and sustainable land management as a strategic contribution to food security, climate resilience and sustainable development. Agricultural, water and climate investments should be aligned around shared objectives, with a stronger focus on long-term preparedness, while maintaining and

improving the capacities required for effective emergency response, recovery and post-disaster reconstruction.

Financing must extend beyond initial capital expenditure. Adequate resources are needed for the maintenance, rehabilitation, modernization and development of infrastructure and services. Funding models for agricultural water services should support long-term sustainability, service quality and water conservation, while remaining consistent with public policy goals, social equity and users' capacity to pay. Where appropriate, cost-recovery approaches, targeted economic incentives and water-pricing mechanisms may contribute to these objectives. Value-chain actors should also be engaged to help farmers in adopting sustainable and climate-resilient practices.

We encourage better mobilization and alignment of public, private and international finance, including climate and blended finance. Technical and financial assistance should be strengthened for countries with limited capacities and high climate vulnerability. Instruments should remain accessible to smallholders, water user organizations and local water managers without creating unsustainable financial burdens.

5. Empowering people through knowledge, data and innovation

We emphasize that innovation delivers results only when it responds to local realities and can be used at scale. We call for farmers, local communities and water managers to be involved in the co-design of technological, social and institutional innovations. Affordable and context-appropriate solutions, backed by strong advisory services, are essential to turn investment into lasting changes in water and farming practices.

We encourage, where appropriate and in accordance with national circumstances, the use of water and land data to support integrated, evidence-based decision-making at the appropriate level. Interoperable information systems combining in-situ observations, remote sensing, spatial soil assessment, climate information and digital technologies can improve water management, transparency and preparedness. Their value lies not only in collecting more data, but also in translating it into practical knowledge for farmers, water managers and decision makers.

Delivering this change requires sustained investment in education, agricultural extension and lifelong learning. Women and young people should be recognized not only as beneficiaries, but as leaders, entrepreneurs and co-creators of agricultural water innovation.

The Marseille Call reaffirms that agriculture is not only a water user, but a strategic partner for sustainable water management, land management, food security and climate resilience. The five priorities set out in this Call provide a practical basis for advancing sustainable agricultural water and land management across diverse national and local contexts.

We encourage governments, international organizations, financial and research institutions, farmers' and water user organizations, civil society and the private sector, in accordance with their respective mandates, to draw on these priorities in support of voluntary and context-appropriate action.

Within its mandate, ICID will continue to foster international cooperation, knowledge exchange and dialogue, and will share the messages of the Marseille Call in relevant international forums on water, agriculture, land and climate.

Contributing countries

Chad
China
France
Iraq
Jamaica
Japan
Kenya
Kosovo
Lebanon
Malaysia
Mauritania
Pakistan
Palestine
Saudi Arabia
South Africa
Spain
Uzbekistan
Zimbabwe

The Marseille Call

Scientific Annex

26th ICID World Congress — Marseille, 12–17 October 2026

Purpose of this annex

This scientific annex goes with the Marseille Call adopted at the 26th ICID World Congress. It provides insights into the scientific questions raised by the Call's five priorities for action and highlights the main pathways through which research can contribute to their implementation. It follows the structure and overall thread of the Call, linking policy messages with knowledge, field experience and research questions.

Scientific context

Growing food needs driven by population growth and changing consumption patterns, competition among water uses, and the effects of climate change are placing increasing pressure on water resources and food systems. For several decades, global water demand has been growing faster than the population. Changes in diets and transformations in food systems partly explain this gap. Climate change is also altering hydrological regimes and the availability of conventional water resources, increasing risks for agricultural and food systems.

Irrigated agriculture has long helped sustaining and diversifying agricultural production as well as enhancing farm incomes. However, depending on the context, development pathways continue to be marked by inequalities in access to water as well as environmental degradation due to growing pressure on water and soil resources. In this context, research must contribute to the transition of agricultural and water-management systems in ways that bring together food production, climate resilience, resource conservation and equity.

1. Aligning agricultural systems with water, soil and climate realities

The first priority of the Marseille Call aims to transform agricultural systems so that they can adapt to water constraints and climate change. Research addresses four complementary challenges: reducing agriculture's pressure on water resources, improving irrigation water management, advancing agroecology in irrigated systems, and reducing greenhouse gas emissions associated with irrigated agriculture. Promising research avenues to address these challenges include:

- Developing cultivars with lower water requirements by identifying the genetic and physiological traits that help maintain agronomic performance when water availability is limited and crops are under water stress.
- Advancing smart irrigation by mobilizing weather data, satellite observations, field measurements and modelling to match irrigation applications to crop water requirements and water availability.

- Developing agroecological approaches suited to irrigated systems by designing cropping systems that require fewer external inputs and promote soil health and water retention, thereby strengthening crop resilience to drought. This also involves the agroecological re-engineering of irrigated systems, combining the adaptation and reconfiguration of infrastructure with changes in production systems, farming practices, services for irrigators and governance arrangements. The aim is to design more flexible irrigated systems that can adapt to water-resource variability and support agroecological transitions at landscape level.

- Develop greenhouse gas emission models specific to irrigated agriculture to better characterize emissions associated with crops, farming practices and the operation of irrigation systems, and to identify ways of reducing them.

2. Making agriculture a steward of water and land resources

The second priority of the Marseille Call concerns agriculture's contribution to the sustainable management of water and land resources. Beyond the withdrawals needed for food production, irrigation and drainage practices influence water flows, groundwater recharge, transfers of materials and water quality. Research can provide insights on how to improve understanding of these interactions at territorial and watershed scales, in order to identify the conditions under which agricultural water management can help conserve resources and maintain ecosystem functioning while sustaining agricultural production. Promising research avenues to address these challenges include:

- A better integration of rainfed and irrigated agriculture across landscapes and watersheds by developing nature-based solutions that strengthen complementarity between green water (rainfall stored in the soil and available to plants) and blue water (water in rivers, lakes and aquifers). Research can contribute to a better understanding of how these nature-based solutions can help regulate water flows, promote infiltration and storage in soils, and reconcile agricultural production needs with the conservation of water resources and ecosystems.

- Improving assessments of water resources available for agriculture at watershed scale by considering rainfed and irrigated agriculture together. Coupling hydrological and agronomic models, as well as satellite observations, allows understanding the interplay and feedback loops between water-resource dynamics, crop water requirements and irrigation withdrawals. These approaches allows for assessing agricultural demand vis-à-vis resource availability under climate change, and to determine the conditions under which water storage and dedicated infrastructure are appropriate responses to environmental and development needs at landscape level.

3. Planning and managing resilient, diversified agricultural water systems

The third priority of the Marseille Call concerns integrated planning and management of agricultural water systems in a context of climate variability and change. This requires better alignment of water, agricultural and land-use policies, as well as anticipation of long-term hydrological changes. Promising research avenues to address these challenges include:

- Studying the conditions for integrated, participatory water management at territorial scale. Research can shed light on how different stakeholder groups can participate

in developing shared assessments, defining objectives and deciding how to allocate water across use-sectors. Research supports the development of innovative territorial platforms that foster dialogue, the exchange and comparison of knowledge, and collective decision-making; it can also contribute to elaborating and implementing participatory processes that strengthen social equity by ensuring the representation and meaningful participation of smallholder farmers, women and young people. The objective is to build more inclusive governance arrangements that are suited to local contexts and better reflect the diversity of interests and needs.

- Strengthening integrated Nexus approaches that analyze interdependencies between water, energy, food and ecosystems. Research can provide insights on how to improve the understanding of interactions across these dimensions, inform trade-offs between uses and sectors, and assess the effects of decisions taken at different scales. Research can help moving beyond sectoral approaches towards coherent planning of resources and activities at territorial scale.

- Strengthening the links between water management, agricultural production and food systems at territorial scale. Research contributes to a better understanding of how access to water and resource-management choices influence production systems, agricultural value chains, and the availability and quality of food products. Research also examines how markets and food demand affect production choices and distribution channels. The challenge is to better align water policies, agricultural priorities and territorial food strategies, notably by reconnecting production and consumption and supporting the relocalization of food systems.

- Integrating non-conventional water resources into territorial planning. Research allows for a sound evaluation of the potential contribution of these resources, particularly treated wastewater, to balancing available resources and the water needs of agricultural territories. Research can help clarifying the conditions for their use, taking into account technical, health, environmental, economic and social issues, as well as their interaction with other water resources and uses. The objective is to determine the conditions under which these resources can make a lasting contribution to territorial climate-change adaptation strategies.

4. Mobilizing finance for sustainable agricultural water management

The fourth priority of the Marseille Call highlights the need to direct investment towards long-term pathways that bring together agricultural, water and climate considerations. Research can inform investment choices, document their long-term effects and generate the knowledge needed to help policymakers and funding agencies revise their priorities. Promising research avenues to address these challenges include:

- Informing investment choices using research findings. Research can compare the short- and long-term effects of different options, including large-scale water infrastructure, nature-based solutions, and transformations of agricultural and irrigated systems. It can analyze their costs, benefits and effects on resource allocation in order to assess the contribution of each option to more sustainable and equitable climate-change adaptation pathways.

- Building evidence-based advocacy to help shift funding priorities. Drawing on research findings, policy briefs and other synthesis tools can inform public decision-makers, governments and funding agencies. This includes documenting the costs and benefits of different pathways, highlighting the cost of inaction in the face of climate change and water-resource degradation, and making visible the expected

effects of the transformations proposed under the preceding priorities. This work can provide robust evidence to direct investment towards solutions suited to territorial contexts and long-term challenges.

5. Empowering people through knowledge, data and innovation

The fifth priority of the Marseille Call focuses on the production, sharing and use of knowledge. It highlights the importance of strengthening collaboration between universities and research organizations, as well as the links between research, policy-makers and practitioners. Innovation can deliver lasting results only when it responds to local realities, can be taken up by stakeholders, and if the adequate conditions for their uptake are gathered, at different scales. Research can contribute to this priority through:

- Involving farmers, local communities, water managers and decision-makers in the design of technological, social and institutional innovations in the framework of knowledge co-production. Participatory and knowledge co-production approaches are essential to bring knowledge generation closer to public decision-making and actual water use practices.
- Open science, civic technologies and citizen science offer new opportunities to share data and involve citizens in producing it. Interoperable information systems combining field observations, soil and hydrological data, climate information and digital tools can contribute to better-informed decision-making.
- For knowledge and data to effectively inform decisions, research must examine the conditions of their validation, availability and uptake by water managers, decision-makers and practitioners. Researchers can co-design indicators and decision-support tools with decision makers and practitioners, test these tools in real-world situations and assess their usefulness for monitoring resources, preparing for droughts and taking allocation decision across water-use sectors. Capacity development is essential to enable stakeholders to mobilize knowledge, use the tools effectively and participate fully in decision-making and collective learning.

Conclusion

The Marseille Call affirms that agriculture should be regarded as a strategic partner for the sustainable management of water and land, food security and climate resilience. Its five priorities are closely interconnected: transforming agricultural systems, stewardship of resources, integrated planning of agricultural water systems, sustainable financing, and innovation grounded in the co-production of knowledge and data. Research can make a practical contribution to these objectives by combining observations, modelling and interdisciplinary analysis, assessing the effects of practices and investments at multiple scales, and co-designing decision-support tools with stakeholders. It must also examine the social, economic and institutional conditions for implementation so that the knowledge produced can inform collective choices suited to the diversity of territories.