## Concept Note

**2025 Youth Hackathon on One Health**

*“New Technology, New Pattern, New Service”*

1. ***About 2025 Youth Hackathon***
2. **Background**

As the compounded impacts of global public health crises, food insecurity, and climate change continue to escalate, the concept of “One Health” has increasingly become central to international cooperation and governance. This approach emphasizes the interdependence of human, animal, plant, and environmental health, and advocates for cross-disciplinary, cross-sectoral, and cross-border systems thinking to address global challenges—ranging from disease transmission and antimicrobial resistance (AMR) to malnutrition and environmental degradation.

Since 2022, the Food and Agriculture Organization of the United Nations (FAO), World Health Organization (WHO), World Organisation for Animal Health (WOAH), and the United Nations Environment Programme (UNEP) have jointly launched the “Quadripartite Partnership” to establish a global coordination mechanism for One Health. This initiative aims to promote a new paradigm of future-oriented health governance.

Against this backdrop, the 2025 “FAO-CAAS Youth Hackathon on One Health,” co-organized by FAO and the Chinese Academy of Agricultural Sciences (CAAS), invites youth innovators and interdisciplinary practitioners aged 18 to 40 from around the world to propose creative, feasible, and socially impactful solutions in the One Health domain. Centered on the theme “One Health, Co-creating the Future,” the event encourages exploration of new technologies, new models, and new services that advance global One Health goals.

This Hackathon offers a dynamic platform for young innovators to engage with complex global challenges, spark interdisciplinary collaboration, and co-create actionable solutions under the One Health framework.

1. **What is a Hackathon?**

A Youth Hackathon is an innovative, hands-on platform that combines open collaboration, rapid prototyping, and interdisciplinary co-creation. Typically lasting for several days, a hackathon may produce information and communication tools, software, mini programs, sustainable products, business models, or other creative solutions, which can potentially evolve into start-ups or long-term projects. By bringing together individuals from different sectors and disciplines who may not typically work together, hackathons create a space for exploring both practical and innovative approaches to solving pressing challenges in food systems and agriculture.

Beyond driving technological breakthroughs, hackathons also promote systems-based understanding of complex challenges and collaborative solution-building.

The 2025 Youth Hackathon on One Health seeks to harness the creativity and interdisciplinary capabilities of young people through inclusive and forward-looking approaches. Focusing on integrated health challenges related to humans, animals, plants, and ecosystems, the Hackathon highlights key issues such as health data, food systems, and antimicrobial resistance (AMR), and aims to build a collaborative space for youth-driven knowledge and innovation across disciplines, sectors, and geographies.

**Key Initiatives Include:**

* Partnering with international organizations, research institutes, social enterprises, and industry experts to co-develop a global youth innovation network around key One Health topics such as governance frameworks, data tools, community health, and food systems.
* Sharing cutting-edge research, policy trends, and best practices in the One Health field—covering topics such as AMR, climate-health linkages, animal health surveillance, and pathways for improved nutrition—to stimulate systems thinking and solution design.
* Providing sustained support for outstanding youth-led projects during and after the event through mentorship, communications support, and platform connection efforts led by FAO, CAAS, and other partners—empowering young teams to turn ideas into meaningful action.
1. ***Goals***
2. Advancing the United Nations Sustainable Development Goals (SDGs) and contributing to the FAO Strategic Objectives by strengthening youth understanding and practical engagement with the One Health approach, particularly in addressing the interconnected health of humans, animals, plants, and ecosystems.
3. Stimulating innovation across technology, models, and services by empowering youth to design high-quality and feasible solutions in key areas such as antimicrobial resistance (AMR), food and nutrition security, and disease surveillance.
4. Establishing a platform for international exchange and interdisciplinary collaboration, enabling youth teams from diverse academic and cultural backgrounds to jointly develop integrated solutions for health governance.
5. Enhancing youth participation and visibility in global health co-governance through practical action, while promoting the localization and implementation of SDGs and FAO strategic priorities.
6. Exploring youth-driven pathways for multilateral cooperation and local adaptation, and facilitating the connection of outstanding projects with international organizations, policy frameworks, and practitioner networks for further incubation and scaling.
7. ***Instructions for Participation***
8. **Topics, Tracks and References**

The 2025 Youth Hackathon on One Health is centered around the theme of “One Health” and features three distinct innovation tracks: New Technology, New Pattern, and New Service. Participants are encouraged to address the complex and interconnected health challenges involving humans, animals, plants, and ecosystems. Proposals should demonstrate interdisciplinary thinking, practical feasibility, and global applicability.

**Track of “New Technology”:** This track focuses on leveraging data-driven solutions, intelligent systems, and frontier technologies to strengthen One Health systems. It explores the role of algorithms, sensors, and biotechnology in enhancing global health governance. Reference cases include:

* Cross-species Disease Forecasting Engine powered by AI and large language models, predicting climate-animal-human transmission pathways.
* Integrated mobile diagnostic kits (IoT + microfluidics) for Foot-and-Mouth Disease, Brucellosis, and Avian Influenza, enabling rapid screening in remote pastoral areas.
* AI-powered Nutrition Companion App, offering personalized dietary advice based on meal photos and gut microbiome prediction.
* Smart environmental monitoring modules for detecting ammonia emissions, temperature, and viral markers in livestock waste, providing early warnings for antibiotic overuse.
* LoRa-based animal health tracking system for low-connectivity outbreak regions, enabling real-time health data transmission.

**Track of “New Pattern”:** This track focuses on reimagining institutional frameworks, governance mechanisms, business models, and knowledge-sharing ecosystems. It seeks scalable paradigms that break disciplinary, sectoral, and community silos, supporting a “collaborative One Health” approach. Reference cases include:

* DAO-based community AMR governance pilot, where smart contracts incentivize responsible antibiotic use in livestock farming.
* Multi-agency co-governance platform integrating climate, disease, and food data—enabling collaborative simulations among agricultural, health, and environmental departments.

**Track of “New Services”:** This track emphasizes social innovation and community empowerment through enhanced user experiences and knowledge-sharing. It focuses on people, animals, and local communities, with a strong emphasis on inclusivity, interactivity, and cultural adaptation. Reference cases include:

* TikTok-style “One Health Challenge” video template packs for use in rural schools and youth networks to raise awareness.
* “Redesigning Antibiotic Labels” initiative—reimagining packaging with visual coding, risk-level indicators, and behavior prompts.
* Child-friendly AMR education kits or AR storybooks that translate abstract issues like drug resistance and ecological degradation into engaging animal stories.
* “AI + Rural Radio” campaign using voice assistants to broadcast localized health guidance and AMR knowledge to farmers in under-resourced areas.

Participants are invited to choose one of the three tracks and develop their proposals accordingly. Submissions should include a detailed description of the innovative model, its potential impact, feasibility, and a preliminary implementation plan.

1. **Tournament Rules**

The 2025 Youth Hackathon is open to all young innovators with creative solutions in the field of One Health. Team members would ideally be between 18 and 40 years old, of any nationality, with participating economies across the world. Current students may have their mentors as part of the project team. However, the application form must highlight their mentor's role in the project. Please be noted that all proposals and presentations shall be conducted in English.

This Hackathon will be divided into three stages to achieve practical and feasible innovative solutions: preliminary selection, training session, and final competition.

1. **Preliminary Selection**
	1. Participating teams set their topics, build their teams, and submit all application materials.
	2. Teams are invited to choose one of the three tracks of *“New Technology, New Pattern, New Service”* and develop their proposals accordingly. Submissions should include a detailed description of the idea, its potential impact, feasibility, and a preliminary implementation plan.
	3. The committee will evaluate the applications and shortlist them in accordance with the three tracks, followed by a public announcement.
2. **Training Session**

The organizers will provide training to shortlisted teams, including:

1. Customized training: training on specific technical needs, PowerPoint production and presentation skills to each team so they may conduct presentations more professionally.
2. Public training: recommendations of relevant experts to each team according to the technology/core product involved in the project.
3. **Final Competition**

The Final competition will be conducted online and offline according to the situation. Each team should have a complete and refined presentation and be able to defend their proposal, to participate in the final competition.

1. **Timeline and Key Points**
* Present – 19 August: Application phase
* 20 August – 25 August: Preliminary selection
* September: Public shortlisting
* September – October: Training Session
* The 3rd Week of October (World Food Forum Week): Final Competition (Online & Onsite)
* TBD: Award Ceremony

Note: These dates are subject to change due to various factors. All participants are requested to check for the most current information released by the organizers through the provided platform or contact details.

1. **Entry Requirements**
	1. Participants will form teams of 2-5 people depending on the needs of their projects.
	2. The team lead and core members of the team must be below 40 years old.
	3. Awards are given on a project and team basis. An ideal team should have the following professional background or competencies:
* Experience in public health, veterinary medicine, plant protection, environmental science, or food and nutrition.
* Proficiency in information technology, big data, artificial intelligence, algorithmic modeling, and sensor/IoT technologies.
* Background in project management, intercultural collaboration, policy analysis, or systems design.
* Familiarity with tools and methods in social innovation, service design, user experience, media communication, or visual design.

We encourage teams to be inclusive and create equal opportunities for all, including women, to take key roles in the team. We support interdisciplinary teams to take advantage of their knowledge and skills to offer innovative solutions grounded in practicality.

1. **Application Materials**

Please complete the application as a team, and send the requested materials to ciar@caas.cn.

**Application deadline: 19 August 2025, 23:59 (GMT+8, Beijing Time)**

1. **Application form** (scan the QR code below for access)
2. **Innovative solution** for one health with materials and templates (scan the QR code below for access).
	1. **Project proposal in** Word format, not exceeding 15 pages, with the main text in Times New Roman, font size 12, double-spaced, and demonstrative pictures, information, guide, and tables.
	2. **PowerPoint presentation** based on the above proposal, which should not exceed 20 slides.
	3. The innovative solution shall cover:
* Summary of the solution (Introduce the team's ideas and what contributions will they make on one health. Up to 250 words)
* Problem identification (Analysis of challenges relating to one health)
* Vision, Mission and Values of the program (describing targets)
* Elaboration on the program's impact on one health
* Societal and economic methodology and technical models
* Financial situation (capital raised, capital needed, revenue analysis)
* Phased development planning (what is the potential contribution of your project 3 years later? How do you plan to achieve? What are the milestones?)
1. **Video presentation** (5 minutes)
2. Introduce your team (1 minute). *Name, role in the team, education, experience, and qualities or skills.*
3. Specify why your team should be selected by presenting the solution chosen by the team, ensuring consistency with the content of the PowerPoint (4 minutes).
4. Share the video with us. Upload the video online to a video sharing platform (YouTube, Google Cloud, Youku, Baidu Cloud or other platforms). Please share the link to the video in the application, ensuring it can be downloaded.
5. Scan the QR Code below



(Please scan the QR code for the application form and other application materials)

1. **Selection Criteria**

The Committee of this Hackathon is composed of experts with various backgrounds, team counselors, and innovation as well as entrepreneurship mentors with experience in UPA. Judges are from leading international and national organizations such as the Food and Agricultural Organization of the United Nations (FAO), Chinese Academy of Agricultural Sciences (CAAS), and other partners.

The projects and their proposals will be assessed according to the following criteria:

* Creativity and innovation
* Possibility of landing and scalability
* Sustainability
* Business model
* Use of open data
* Technical difficulties
* Design and user experience
* The effects when applied or demonstrated
1. **Awards and benefits for the Participants**
* A certificate provided by FAO and CAAS.
* Comprehensive experience of an independent innovation and entrepreneurship activity along with partners who share the same values.
* Networking with other teams, UN agencies, CAAS, and partners in the field for future collaboration.
* Feedback and support from industry experts and mentors and gaining valuable insight and ideas on strategic thinking on sustainable agriculture and carbon mitigation under the new paradigm.
* Inspiring workspace where perspectives from different cultural backgrounds are welcomed.
* Referral to pursue educational opportunities for graduate or Ph.D. degrees in CAAS, and preferential access to internships within the Center for International Agricultural Research (CIAR).
1. ***Partners***

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| **Host Organization** |
| Food and Agriculture Organization of the United Nations |
| Department of International Cooperation of Chinese Academy of Agricultural Sciences  |
| Center for International Agricultural Research of Chinese Academy of Agricultural Sciences  |
| Young Professionals for Agricultural Development  |
| **Supporting Organization** |
| World Food Forum |
| Harbin Veterinary Research Institute, Chinese Academy of Agricultural Sciences |
| Institute of Plant Protection, Chinese Academy of Agricultural Sciences |
| Institute of Food and Nutrition Development, Ministry of Agriculture and Rural Affairs |
| National Veterinary Drug Industry Technology Innovation Alliance |

1. ***Other Information***

For inquiries or more information, please send an email to

ciar@caas.cn