2024 Youth Hackathon on Urban Agriculture

"New Technology, New Pattern, New Service"

I.   About 2024 Youth Hackathon

(i)   Background

The current global population is persistently increasing, with an estimated projection of 9.7 billion by 2050. This necessitates the production of more food and other agricultural products on limited land and water resources, which, therefore, poses significant challenges to agricultural production and resource management.

Urban and peri-urban agriculture (UPA) can be defined as practices that yield food and other outputs through agricultural production and related processes (transportation, distribution, marketing, recycling etc.), taking place on land and other spaces within cities and surrounding regions.

It involves urban and peri-urban actors, communities, methods, places, policies, institutions, systems, ecologies and economies, largely using and regenerating local resources to meet changing needs of local populations while serving multiple goals and functions. 55% of the world's population resides in urban areas; 79% of all food produced is destined for consumption in cities; 266 million urban households are involved in crop production in developing countries.

However, UPA also faces many challenges. It often competes with other activities (e.g. housing, infrastructures, industry) for key resources such as land, water and labor and the needs of smallholder producers is seldom heard. In particular, the value of land for non-agricultural uses is much higher and cultivations are seldom protected by secure tenure arrangements. The quality of water used in UPA is also critical, due to high population density and presence of industrial activities where there is a large concentration of UPA producers. To overcome challenges, the long-term sustainability

of UPA will depend on how it is regulated and integrated into the urban resource management and environmental planning process.

(ii)   What is a Hackathon?

Hackathon is an innovative event where teams of creativity and expertise explore solutions for specific issues and challenges in a collaborative environment. Typically, a hackathon lasts for several days, and possible outcomes include ICT tools, software, apps, sustainable products, business models, or other solutions, which may lead to the inception of a start-up business or project. With the assembly of people from all walks of life who do not normally work together, this environment comprising of hackers can explore solutions both practically and innovatively to address food and agricultural problems.

Key Initiatives Include:

- Conduct cooperation with stakeholders, industry professionals, and experts to **establish a global network of relationships related to the urban agriculture** value chain and explore innovative opportunities and create a favorable environment by working in collaboration with both public and private sectors.

- **Share cutting-edge information, theoretical achievements, and best-case examples** related to technologies, innovations, and business models in the field of urban agriculture.

- **Providing ongoing support for young creators** during and after the events through the efforts of FAO, CAAS and other partners, thus empowering them to better address problems.

II.   Goals

1. ***United Nations Food Systems Summit initiatives*** to be undertaken, while contributing to UN Sustainable Development Goals (SDG) and FAO Strategic Objective 2: "Make agriculture, forestry and fisheries more productive and sustainable", Strategic Objective 3: "Reduce rural poverty" and Strategic Objective 4: "Enable more inclusive and efficient agricultural and food systems".

2. Enhancing youth's enthusiasm for participating in agriculture activities to **promote sustainable agriculture development in urban and peri-urban areas**.

3. Exploring innovative approaches that complement the slogan ***"New Technology, New Pattern, New Service"***.

4. **Building an international exchange platform** for urban agriculture and cultivating young talents in the field.

III. Instructions for Participation

(i) Topics, Tracks and References

Urban Agriculture refers to the practice of cultivating, processing, and distributing food in and around urban areas. It encompasses a diverse range of food-growing practices, such as vertical farming, rooftop gardens, and community allotments, aiming to make cities more sustainable, reduce food miles, and improve food security.

Track of "New Technology": This track focuses on the innovative use of technology to enhance urban agricultural practices. It includes advancements in areas like hydroponics, aeroponics, automated farming systems, and smart agricultural technologies. Here are some reference cases:

- Vertical Farming Systems: Automated vertical farms using hydroponic or aeroponic systems to maximize space efficiency in urban areas.
- IoT in Agriculture: Smart sensors and IoT devices to monitor and optimize growing conditions, improving yield and resource efficiency.

Track of "New Pattern": This track is about exploring new models or patterns of urban agriculture that can be sustainable, inclusive, and scalable. It focuses on innovative business models, community engagement strategies, and policy frameworks. Here are some reference cases:

- Community Supported Agriculture (CSA): Models where consumers invest in urban farms and receive a portion of the produce regularly.
- Integrated Urban Farming Systems: Incorporating urban farms into residential or commercial buildings as part of the architectural design, promoting a self-sustaining ecosystem.

Track of "New Services": This track emphasizes the development of services that support urban agriculture. It includes community-based initiatives, education and training programs, and services that connect urban farmers with markets and consumers.

- Urban Farming Educational Programs: Workshops and courses to educate city residents about sustainable farming practices.
- Farm-to-Table Services: Platforms or networks that facilitate the direct sale of produce from urban farms to local restaurants and consumers.

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.

(ii)   Tournament Rules

2024 Youth Hackathon is open to all creators that can contribute towards an urban agriculture society. 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**
   a) Participating teams set their topics, build their teams, and submit all application materials.
   b) 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.
   c) 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:

a) <u>Customized training:</u> training on specific technical needs, PowerPoint production and presentation skills to each team so they may conduct presentations more professionally.

b) <u>Public training:</u> 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.

(iii) Timeline and Key Points

➢ Present – 19 July: Application phase

➢ 20 July – 25 August: Preliminary selection

➢ August: Public shortlisting

➢ September: Training Session

➢ The 3rd Week of October (World Food Forum Week): Final Competition (Online & Onsite)

➢ TBD: Award Ceremony (Onsite, China)

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.

(iv) 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:

- ➢ Practice/experience related to sustainable agriculture.
- ➢ Information technology/software engineering/data engineering.
- ➢ Project management.
- ➢ Marketing/New Media Communications.

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.

(v)   Application Materials

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

Application deadline: 19 July 2024, 23:59 (GMT+8, Beijing Time)

1. **Application form** (scan the QR code below for access)
2. **Innovative solution** for urban agriculture with materials and templates (scan the QR code below for access).
    a) **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.
    b) **PowerPoint presentation** based on the above proposal, which should not exceed 20 slides.
    c) The innovative solution shall cover:
        - ➢ Summary of the solution (Introduce the team's ideas and what contributions will they make on urban agriculture. Up to 250 words)
        - ➢ Problem identification (Analysis of challenges relating to urban agriculture)

> ➤ Vision, Mission and Values of the program (describing the agricultural and rural activities/sub-fields it targets)

> ➤ Elaboration on the program's impact on urban agriculture

> ➤ 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?)

3. **Video presentation** (5 minutes)

    a. Introduce your team (1 minute). *Name, role in the team, education, experience, and qualities or skills.*

    b. 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).

    c. 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.

4. Scan the QR Code below

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

(vi)   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

(vii)   Awards and benefits for the Participants

➤ A generous cash prize and 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).

IV. Partners

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
Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences
Institute of Urban Agriculture, Chinese Academy of Agricultural Sciences

V. Other Information

For inquiries or more information, please send an email to
ciar@caas.cn and copy ypardchina@outlook.com