



INTERNATIONAL TRAINING PROGRAM

Agricultural Practices using Drones: Plan, Design, Build, and Fly Training Program

13 - 23 NOVEMBER 2024

INDIAN INSTITUTE OF TECHNOLOGY KANPUR
UTTAR PRADESH, INDIA



African-Asian Rural Development Organization (AARDO)
Delhi

INTRODUCTION

- Theme of the programme** - Agricultural Practices using Drones: Plan, Design, Build, and Fly Training Program
- Sponsoring Organisation** - African Asian Rural Development Organization (AARDO)
www.aardo.org
- Training Institute (Host)** - Indian Institute of Technology Kanpur (IIT Kanpur)
www.iitk.ac.in
- Duration** - 13-23 November 2024
- Deadline for Application** - 20 October 2024

BACKGROUND

The Indian Institute of Technology (IIT) Kanpur, a premier institution known for its technological research and educational excellence, has partnered with the African-Asian Rural Development Organization (AARDO) to offer a transformative course titled "Agricultural Practices using Drones: Plan, Design, Build, and Fly Training Program." This innovative collaboration aims to revolutionize agricultural practices in rural regions across Africa and Asia by leveraging advanced drone technology. Presently, traditional agricultural practices often rely on manual labor and conventional methods for crop monitoring, soil analysis, pest control, and resource management. These methods are typically time-consuming, labor-intensive, and sometimes inefficient, leading to suboptimal productivity and increased costs. Farmers face challenges such as uneven crop growth, delayed detection of diseases and pests, inefficient use of fertilizers and water, and a lack of precise data to make informed decisions.

The emergence of agricultural drones promises to address these challenges by introducing precision agriculture techniques. Drones, or Unmanned Aerial Vehicles (UAVs), can provide real-time, high-resolution data on crop health, soil conditions, and field variability. This data allows farmers to implement targeted interventions, such as precise application of fertilizers and pesticides, optimized irrigation, and timely harvesting, leading to improved crop yields and resource efficiency. The "Agricultural Practices using Drones" course is designed to equip participants with the skills to plan, design, build, and operate drones for various agricultural applications. The course will delve into the fundamentals of drone technology, including hardware components, software integration, flight dynamics, and data analysis. Participants will receive hands-on training in constructing drones, programming flight paths, and interpreting aerial imagery to make informed agricultural decisions.

ABOUT THE COURSE

OBJECTIVES OF THE PROGRAMME

- To make the participants aware regarding the use of drones in agriculture.
- To educate the trainees regarding the planning needed for the use of drones in agriculture.
- The various methods of designing a drone.
- Hands-on training on design and building a drone.
- Training on how to operate the drone.

LIST OF TOPICS TO BE COVERED

1. Introduction, Drones in Agriculture: 1 day
2. Regulations and Ethics: 1 day
3. Designing of drone: 1 day
4. Building of drone: 1 day
5. Pre-flight Preparations: 1 day
6. Field Trip: 1 days
7. Flight Maneuvers: 1 day
8. Emergency Procedures: 1 day
9. Maintenance and Troubleshooting: 2 days



DETAILS OF THE COURSE

ESSENTIAL QUALIFICATIONS

- A bachelor's degree and a minimum of five years of relevant field experience are required.
- Proficiency in spoken and written English is mandatory, as the medium of instruction is exclusively in English, and translation services into other languages are not provided.
- Applicants should have good physical and mental health to complete the training course successfully.
- Applicants should be below 50 years of age, with no participation in any AARDO's offline training program over the preceding two years.

MEDIUM OF COMMUNICATION

The medium of communication is primarily English. Participants are encouraged to have a proficient working knowledge of English to facilitate effective communication and engagement.

CERTIFICATE

Upon successful completion of the training program, participants will receive a certificate bearing the signatures of both AARDO and IIT Kanpur, providing authentication.

COMMUNICATION

WhatsApp communication will be established among the participants, the host institute, and AARDO to enhance communication speed and information sharing.

VISA & AIR TICKETS

AARDO will facilitate the visa application process through the Indian Missions in the participants' respective countries. Air tickets will be provided by AARDO once the visa is confirmed, allowing the candidate(s) to attend the program. Upon the nominee(s) confirmation, round-trip economy class air tickets will be arranged for their travel to Lucknow/New Delhi and back.

HOW TO APPLY

Step 1: log on the link: <https://aardo.org/aardot.php>

Step 2: Fill up the details and submit. Take print out of the filled in application form.

Step 3: Applicants are required to sign their applications and send them along with the recommendation letter of the Nodal Ministry of AARDO/Centre of Excellence to our email.: iec@aardo.org



ABOUT THE PROGRAM



ABOUT THE HOST TRAINING INSTITUTE (IIT-Kanpur)

The Indian Institute of Technology (IIT) Kanpur, established in 1959, is one of India's premier institutions for higher education and research in engineering, science, and technology. Located in Kanpur, Uttar Pradesh, IIT Kanpur is renowned for its academic excellence, cutting-edge research, and innovation. The institute offers undergraduate, postgraduate, and doctoral programs across various disciplines, fostering an environment of intellectual rigor and interdisciplinary collaboration. Equipped with state-of-the-art facilities, IIT Kanpur emphasizes hands-on learning and practical application of knowledge. Its faculty includes

leading experts and researchers committed to advancing knowledge and solving real-world problems. IIT Kanpur's contributions to technology, industry, and society have earned it a reputation as a leader in education and a catalyst for technological progress in India and beyond.



IMPORTANT NOTE

- Applications not accompanied by a recommendation from the participant's country's AARDO Nodal Ministry or Center of Excellence will not be considered.
- Completed applications must be submitted to the AARDO Secretariat on or before the closing date.
- Due to limitations in the number of participants, only selected candidates will be notified through their Nodal Ministry and AARDO's Centers of Excellence.

PROGRAM COORDINATORS - IIT KANPUR

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