Remote Pilot and Precision Agriculture Training

Figure 1: Participants learning aerodynamics victory

Figure 2: Participants celebrating a quiz

Figure 3: Group presentation at closing ceremony training

Figure 4: Group photo upon completion of

OVERVIEW	
Flying Labs	Flying Labs Namibia
Location	Lucius Sumbwanyambe Mahoto Correctional Services Training College, Omaruru, Namibia.
Date	Monday, 13 March 2023 - Friday, 31 March 2023
Length (number of days)	Eighteen (18)
Sector program (optional)	DevRobotics and EcoRobotics

Format	In-Person
Co-organizer if applicable	United Nations World Food Programme (WFP) in Namibia
SDGs	GOAL 2: Zero Hunger GOAL 8: Decent Work and Economic Growth GOAL 9: Industry, Innovation and Infrastructure GOAL 15: Life on Land

SCOPE & OUTCOMES	
Type of training	1. Introductory training to drones. 2. Technical training of professionals. 3. Sector-specific training of professionals.
Goal of the training	1. Create drone awareness. 2. Develop drone data acquisition skills. 3. Develop drone data analysis skills. 4. Develop data literacy and interaction skills. 5. Certify drone pilots.
Expected outcome for participants	1. Gaining remote drone pilot theoretical knowledge. 2. Gaining skills and expertise in precision agriculture data collection, processing and management. 3. Gaining practical skills in multi-rotor drones (Visual Line of Sight).
Confirmed outcome after training	As a result, participants received training on; 1. Air Law, operational procedures and basic Remotely Piloted Aircraft System (RPAS) knowledge. 2. Aerodynamics, principles of flight and human factors. 3. Navigation and meteorology (weather) understanding. 4. Mission planning, as well as data collection, processing, analysis and interpretation for action taking practice. 5. Flight training as a combination of simulator and aircraft practice. 6. Group project presentations that integrated the learnings

	from the training into actual daily work routines.
Eventual next steps	The team embarked on the following next steps; 1. Debriefing of project stakeholders. 2. Participants' licensing by the Namibia Civil Aviation Authority (NCAA). 3. Procurement of drones, accessories, software and high-performance computers. 4. Developing a drone migratory locust scouting Proof of Concept (PoC). 5. Pushing for the adoption of drone usage in professional farming practices. 6. Training of administration and farm managers on interpreting of precision agricultural insights 7. Intermittent congregation of participants for currency activities.

PARTICIPANTS	
Profiles and number of participants	28 Staff from the Government.
Name of participants' organisations	1. Ministry of Agriculture, Water and Land Reform (MAWLR). 2. Ministry of Environment, Forestry and Tourism (MEFT). 3. Ministry of Home Affairs, Immigration, Safety and Security (MHAISS) - Namibian Correctional Service (NCS).
Gender ratio	4 females (14%) : 24 males (86%)
Who paid for the training?	1. Namibia Flying Labs. 2. Ministry of Home Affairs, Immigration, Safety and Security (MHAISS) - Namibian Correctional Service (NCS). 3. United Nations World Food Programme (WFP) in Namibia.
Participant fee rate (if applicable)	USD 1,187.95
Scholarships offered?	● 6 full scholarships.

	• 17 partial scholarships.

CONTENT	
Training components	In order to meet the expected outcomes of the training, the team incorporated theory, practicals, simulation exercises and project components.
Training resources used	**Hardware** 1. Apple iPads 2. Data projector 3. DJI Mavic 2 Pro 4. DJI Mavic Mini SEs 5. DJI Tellos 6. Form gliders 7. Shenzhen GY G7 8. Skydio 2s 9. Laptop computers 10. PA system **Resources** 1. Flip chart 2. Quiz materials 3. Training manuals 4. Whiteboard markers **Software** 1. Agisoft Metashape 2. DroneDeploy 3. DJI Fly 4. DJI Go 4 5. QGroundControl 6. MS Office 7. Picterra 8. Pix4Dcapture 9. Pix4Dfields 10. Pix4Dmapper **Visual Aids** 1. Banners

	2. Flyers
Approaches and methods used	1. Specific focus was given to use cases in precision agriculture 2. The training featured a lot of practical and simulation sessions 3. Participants engaged in activities comprising a workflow that included, but was not limited to, data collection, processing, analysis and interpretation. 4. Group projects, aligned with professional backgrounds of the participants. The projects were elected, progressively built on and finally presented at the closing ceremony.