



Drones for Agriculture in Africa

**FAO-ITU Regional Training on
the use of drones, satellite
imagery and GIS for agriculture**

Asian Institute of Technology
Campus, Thailand
4-8 June 2018



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Agricultural and
Rural Cooperation
ACP-EU (CTA)



**Food and Agriculture
Organization of the
United Nations**



WHAT IS CTA?

- Technical Centre for Agricultural and Rural Cooperation ACP-EU
- Joint institution of EU and African, Caribbean and Pacific Group of States
- Founded in 1984
- Focus on information and communication for agricultural and rural development
- Funded by EU under the European Development Fund



Current CTA **ICT4Ag** priority areas of intervention

1

Youth
entrepreneurship

2

Precision
Agriculture

3

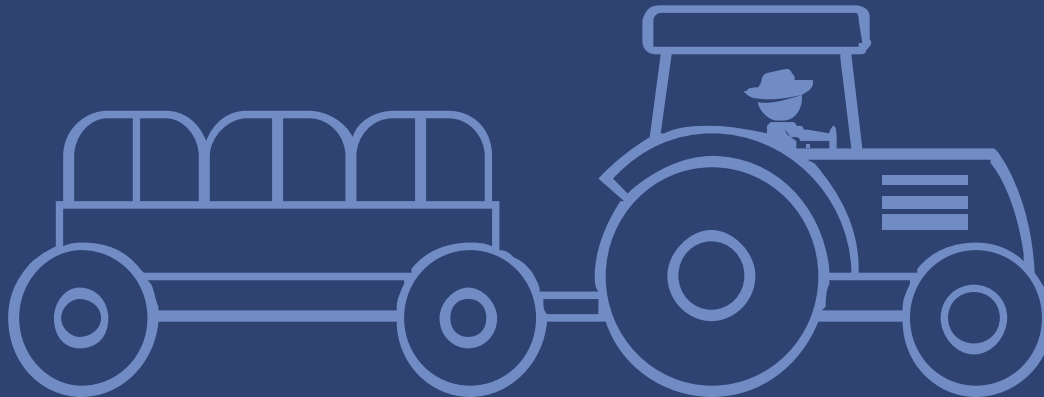
Market
linkages

[Innovation, digital literacy and KM]





Challenges for UAS adoption in Africa





Challenges for the upscaling UAS services in agriculture in Africa

Absence of UAV regulations in many developing countries

Presence of disabling regulations for would-be drone operators

Lack of licensed drone pilot schools except for South Africa

Non recognition of drone pilot licenses across national borders

Small-scale mixed cropping & the need to focus on smallholders growing the same crop on contiguous areas

Lack of evidence of positive Return to Investment for smallholders

Insufficient awareness

Slow and expensive access to the Internet

Challenges for UAV operators to scale up

REGULATIONS



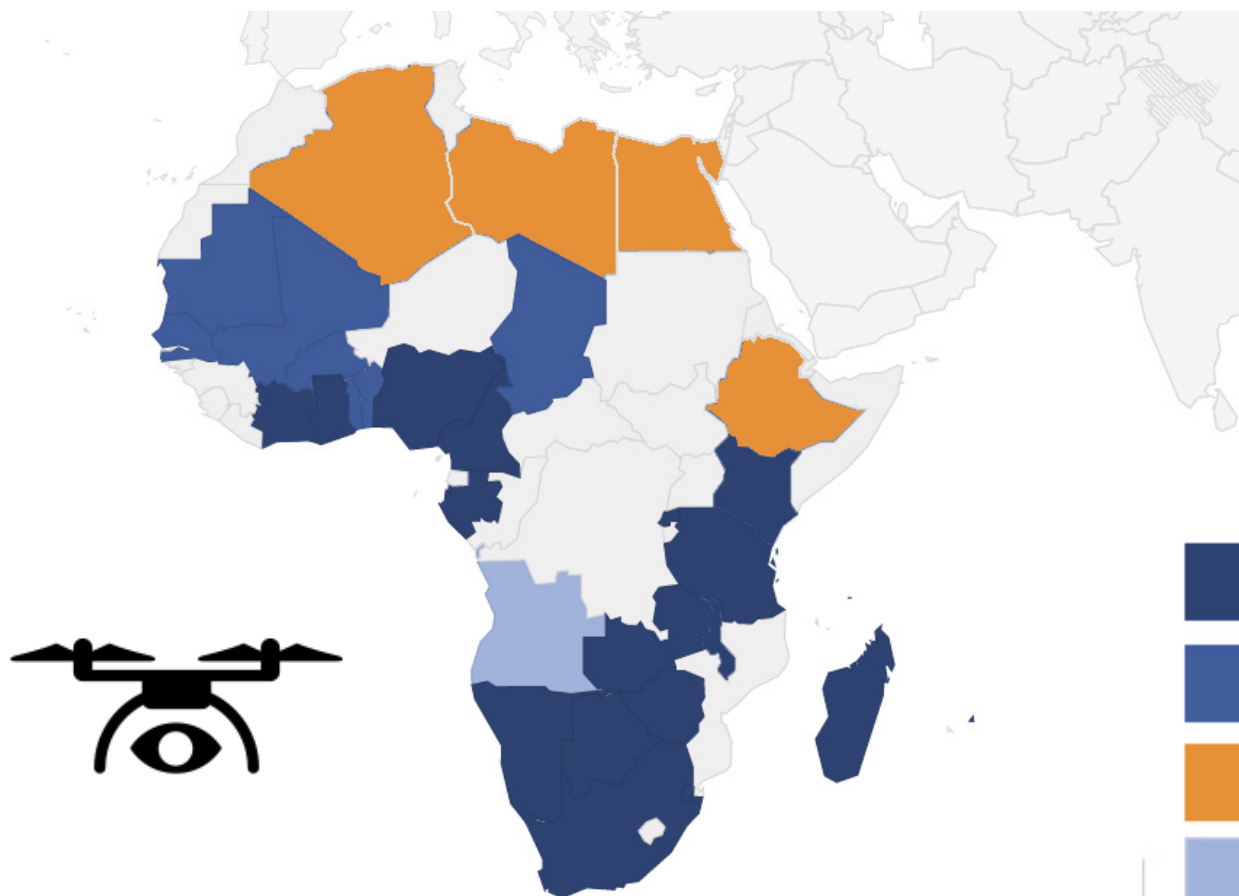
Small drones are unmistakably different from aircraft in so many ways yet they are considered as full-fledged aircraft in most of the countries

Disabling

or

Enabling?

Status of drone regulations in Africa



Source:
www.droneregulations.info

CTA
Working Paper
16/12

Drone Governance

A Scan of Policies, Laws and Regulations Governing the Use of Unmanned Aerial Vehicles (UAVs) in 79 ACP Countries

Series: ICTs for agriculture

- Regulations are in place
- Minor references are included in aviation regulations
- Temporary ban
- Regulations are pending or being developed
- No known regulation in place

A new technology and the regulatory bottleneck

Uganda has no regulations in place and drones are confiscated from travellers at the airport of Entebbe. A few operators have a provisional license.

South Africa (regulations effective 1 July 2015). As of February 2018 only 21 companies licensed to operate, with a back log of over 400 applications

Rwanda (regulations effective 16 May 2016). Only one licensed commercial operator so far.

Ghana (regulations as of June 2016). Commercial operators need to obtain written permission from regional or local police stations before operating drones.

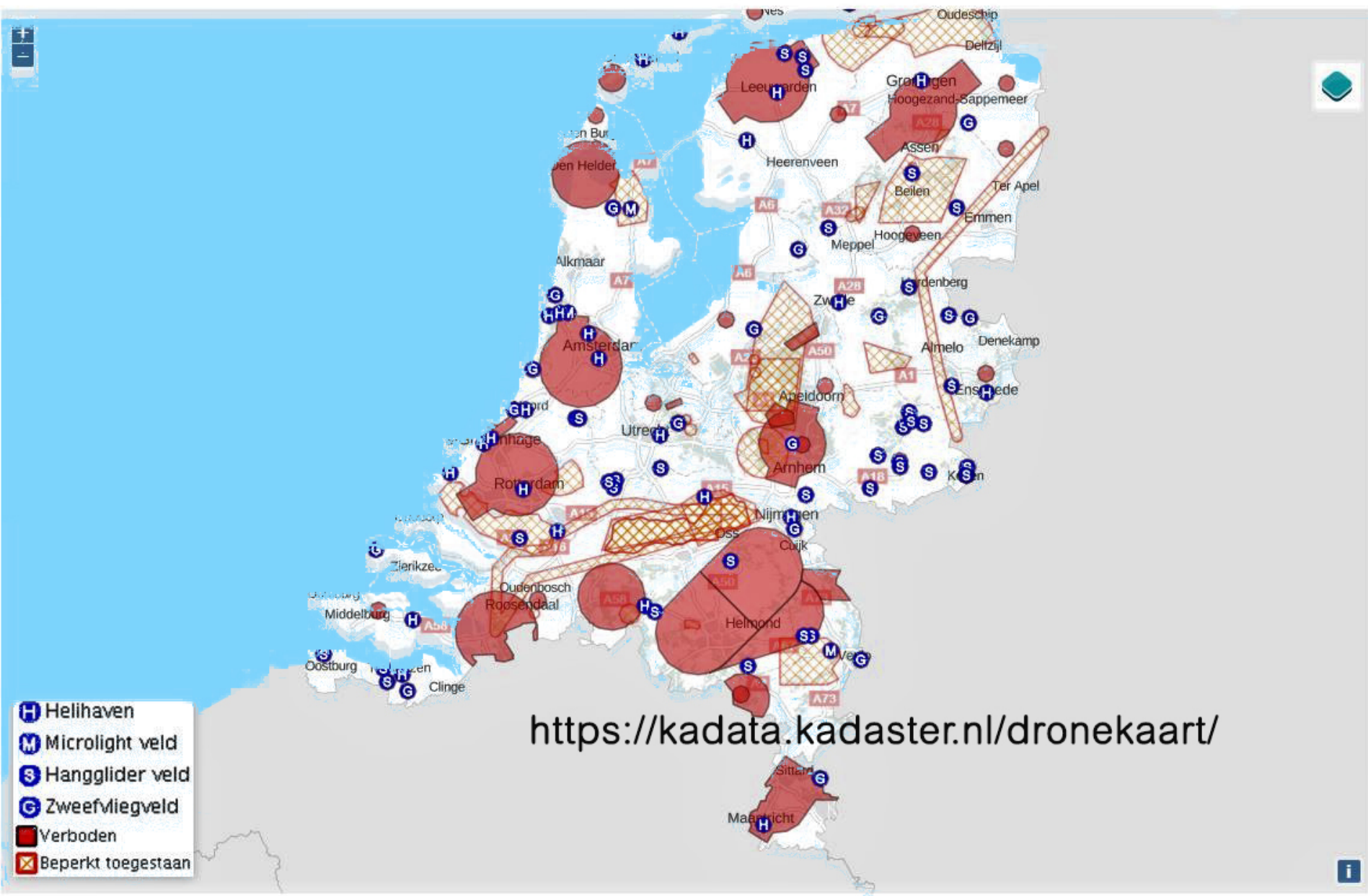
In **Nigeria** (regulations as of May 2017). 1st operator licensed in June 2017.

In **Zambia** (regulations as of July 2016). 1st commercial UAV operator obtained a ROC (RPAS Operation Certificate) in April 2018.

In **Spain** (regulations as of Oct 2014). 2200 registered drone operators (as of 31 May 17) plus 200 training organisations in place.

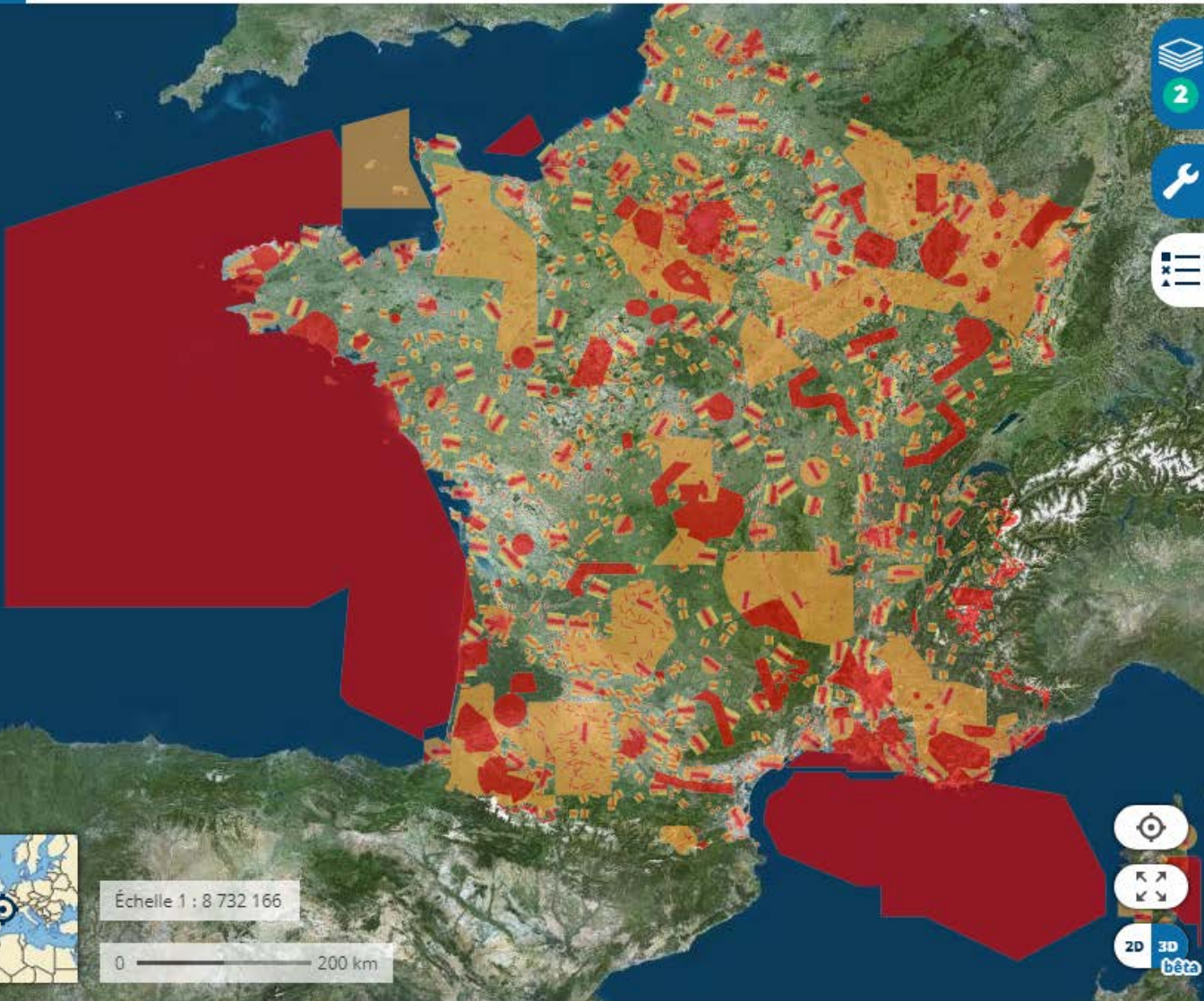
In the **United Kingdom**, as of the 26 April 2018, Small Unmanned Aircraft (SUA) (<20 kg) operators holding a valid CAA permission: 4,055 (Source CAA, UK)

Drone no-fly zones



- H** Helihaven
- M** Microlight veld
- S** Hangglider veld
- G** Zweefvliegveld
- Verboden
- ⊠** Beperkt toegestaan

<https://kadata.kadaster.nl/dronekaart/>



LÉGENDE

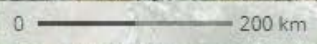
Photographies aériennes
Restrictions pour drones de loisir

- Vol interdit *
- Hauteur maximale de vol de 30 m*
- Hauteur maximale de vol de 50 m*
- Hauteur maximale de vol de 60 m*
- Hauteur maximale de vol de 100 m*
- Tout vol interdit au dessus de 150 m

* Sauf conditions particulières publiées à l'arrêté "espace" du 17 décembre 2015

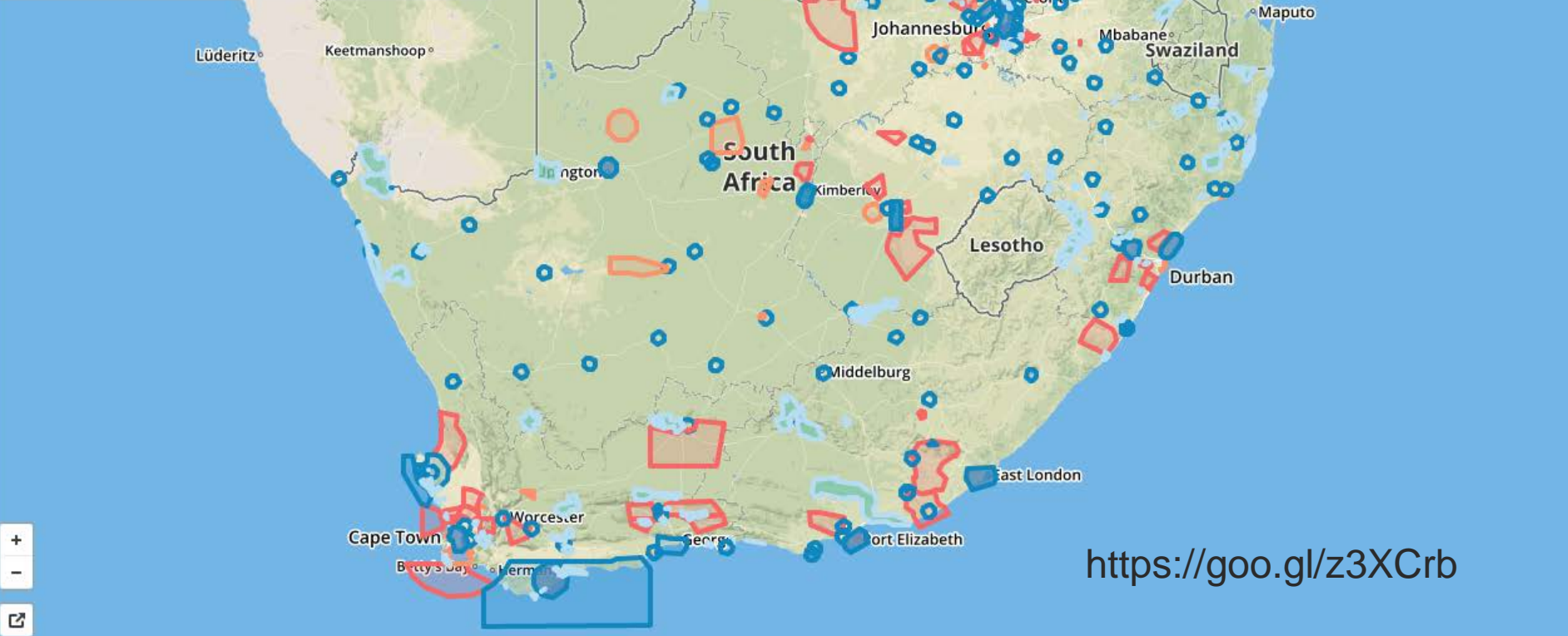


Échelle 1 : 8 732 166



No Drone Zone Gary Mortimer 989

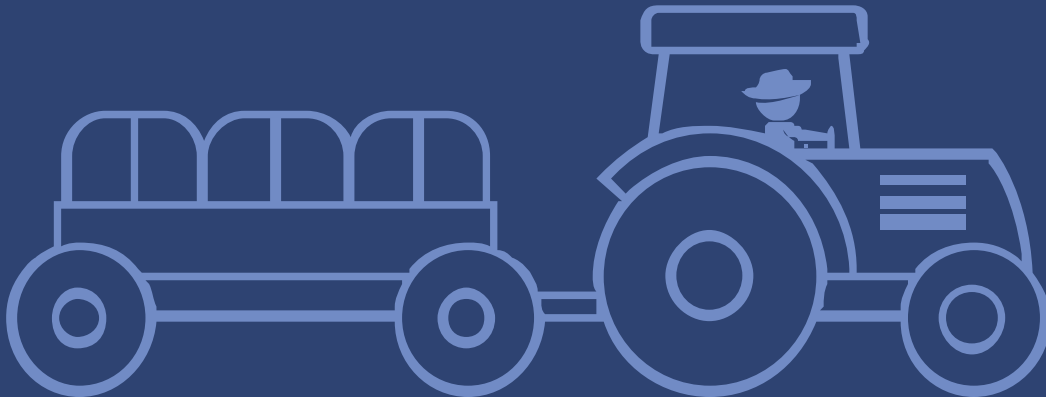
- WINDSOR LOCKS CLASS C
- P205
- TUCSON DAVIS-MONTHAN-AFB CLASS C
- Homestead
- R5115
- R6312
- R3602A



<https://goo.gl/z3XCrb>



Opportunities



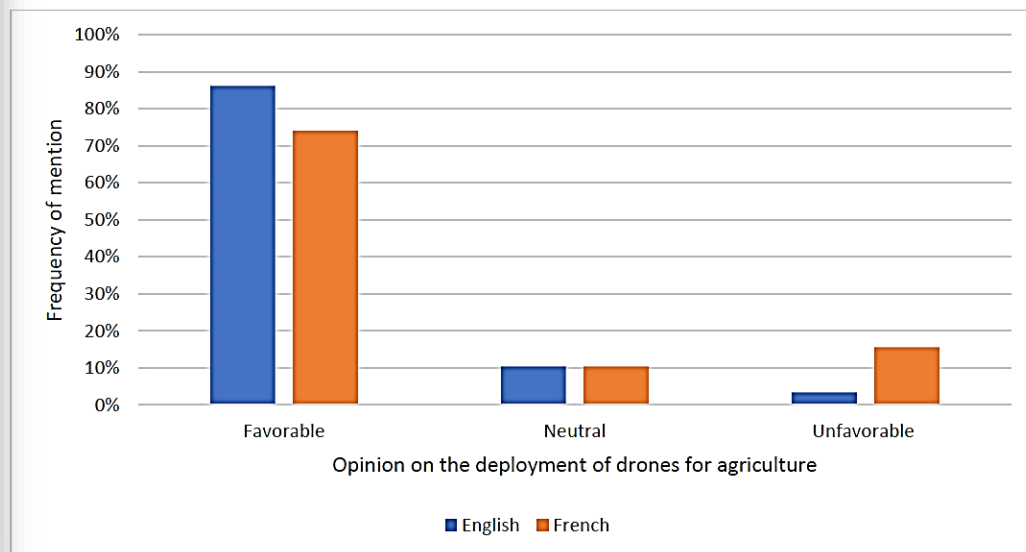

Use of Drones for Agriculture - A perception survey (Nov. 2017)

CTA
Working Paper
18/02

Drones in Agriculture in Africa and other ACP countries A Survey on Perceptions and Applications

Denise Soesilo and
Giacomo Rambaldi

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Trends and opportunities

African Union's support for drone-based technology

- By issuing Decision EX CL/Dec. 986-1007(XXXII) (26/1/18) **the Executive Council of the African Union** requested the AU and Member States to build on drone technology for precision agriculture

Youth Agriculture & ICTs

- Increased engagement of youth in agricultural value chains through innovative ICTs
- *“ICTs make Agriculture sexy”* (Hon. Agnes Kalibata, MINAGRI, 2013)

Real time data gathering and processing

- Agriculture may transform into a high-tech industry, with decisions being based on real-time gathering and processing of data


Drones on the horizon: Transforming Africa's agriculture

English version

To be launched at
the Africa Innovation
Summit, Kigali, 6-8
June, 2018

French version

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**DRONES ON THE HORIZON: TRANSFORMING
AFRICA'S AGRICULTURE**



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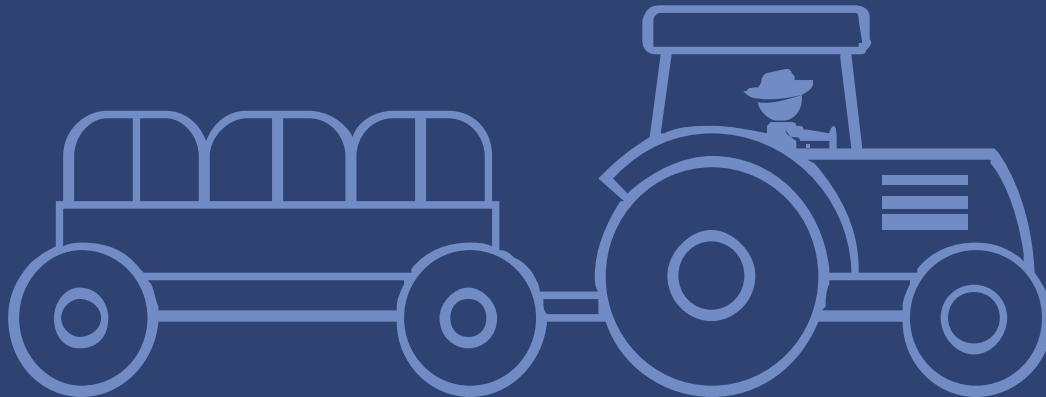
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Site web : www.au.int

**DES DRONES À L'HORIZON : TRANSFORMER
L'AGRICULTURE EN AFRIQUE**

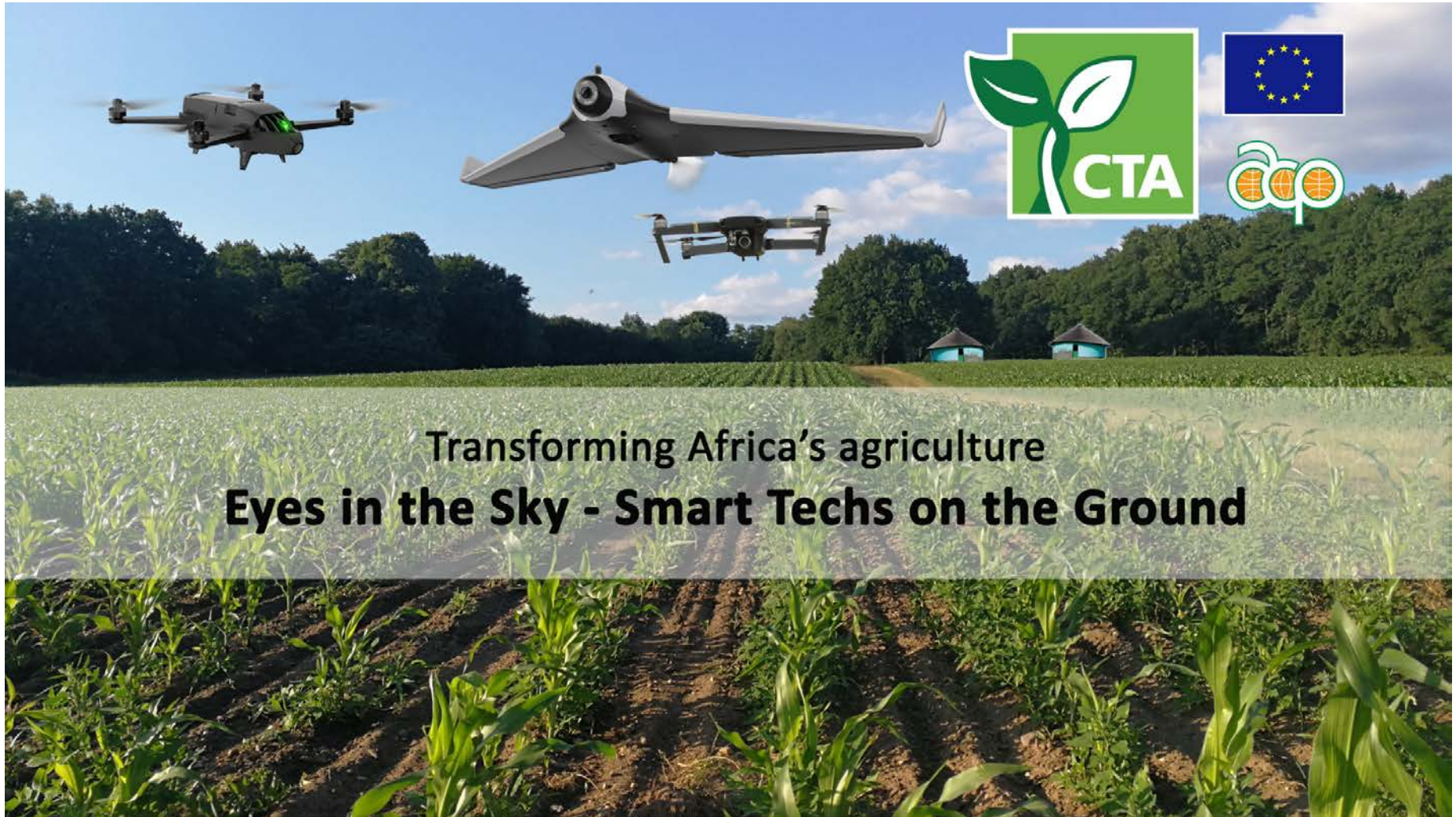


CTA & sUAS



CTA supported UAS Operators - 2017





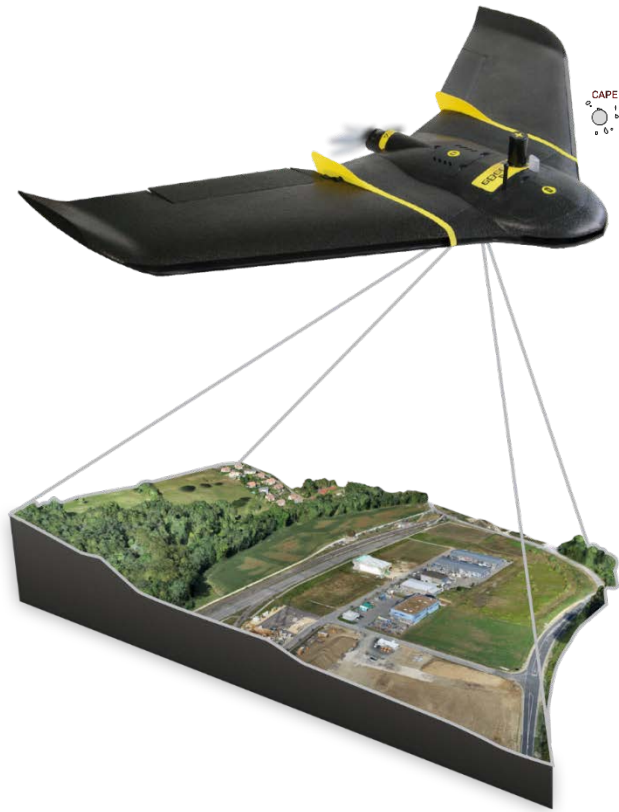
Transforming Africa's agriculture
Eyes in the Sky - Smart Techs on the Ground





South Atlantic Ocean

CTA supported Eye in the Sky UAS operators



Created with mapchart.net



Communities of Practice

Twitter: @uav4ag (30K)

Facebook: @uav4ag (136K)

DGroups: www.uav4ag.org (1K)

~ 170K

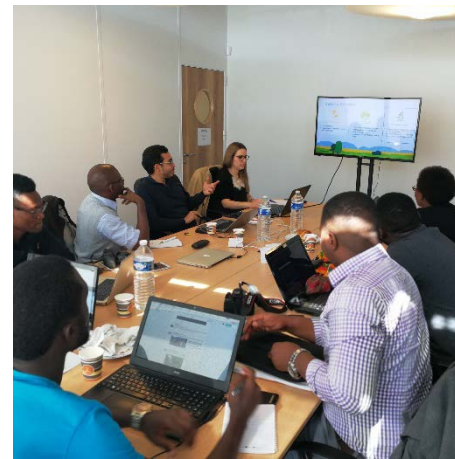
Capacity building



Networking



Market linkages



Case documentation

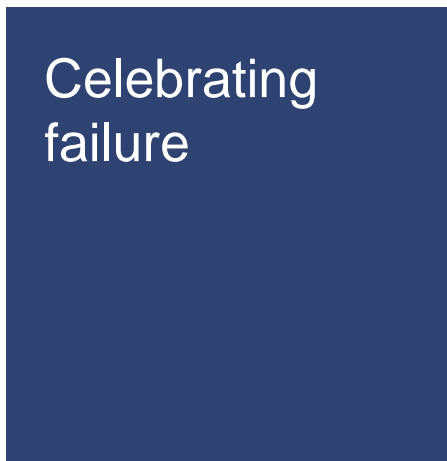
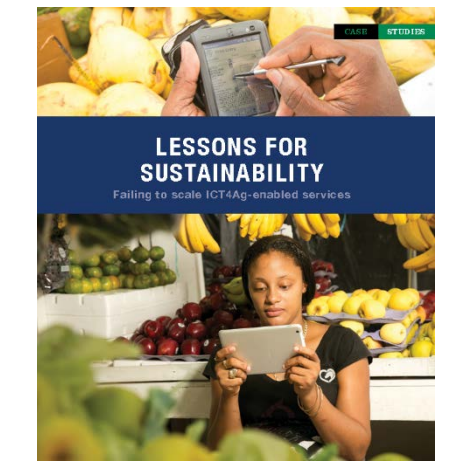
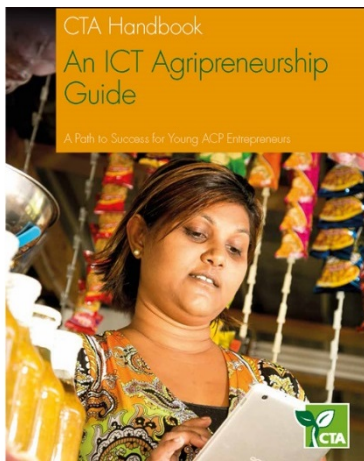
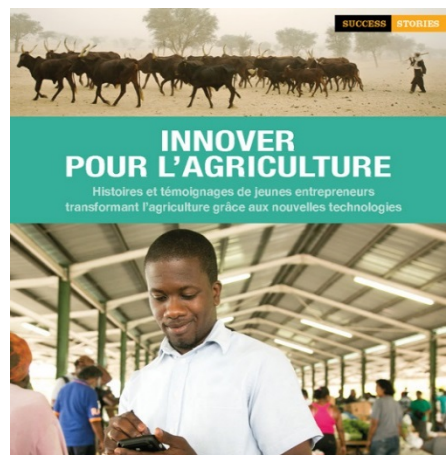
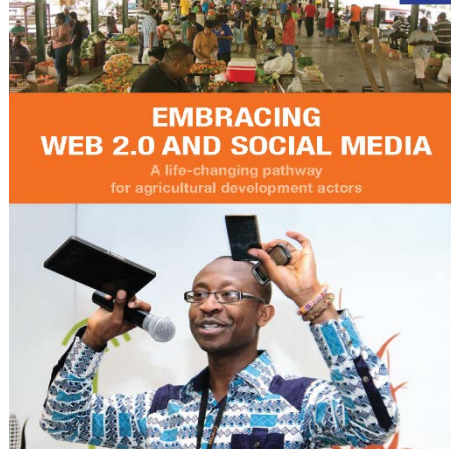
Impact studies & impact stories

CTA
Working Paper
17/07

Small Unmanned Aerial System Mapping Versus Conventional Methods

Walter Volkmann

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PARTNERSHIPS WITH PRIVATE SECTOR





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