



Space for Food Security

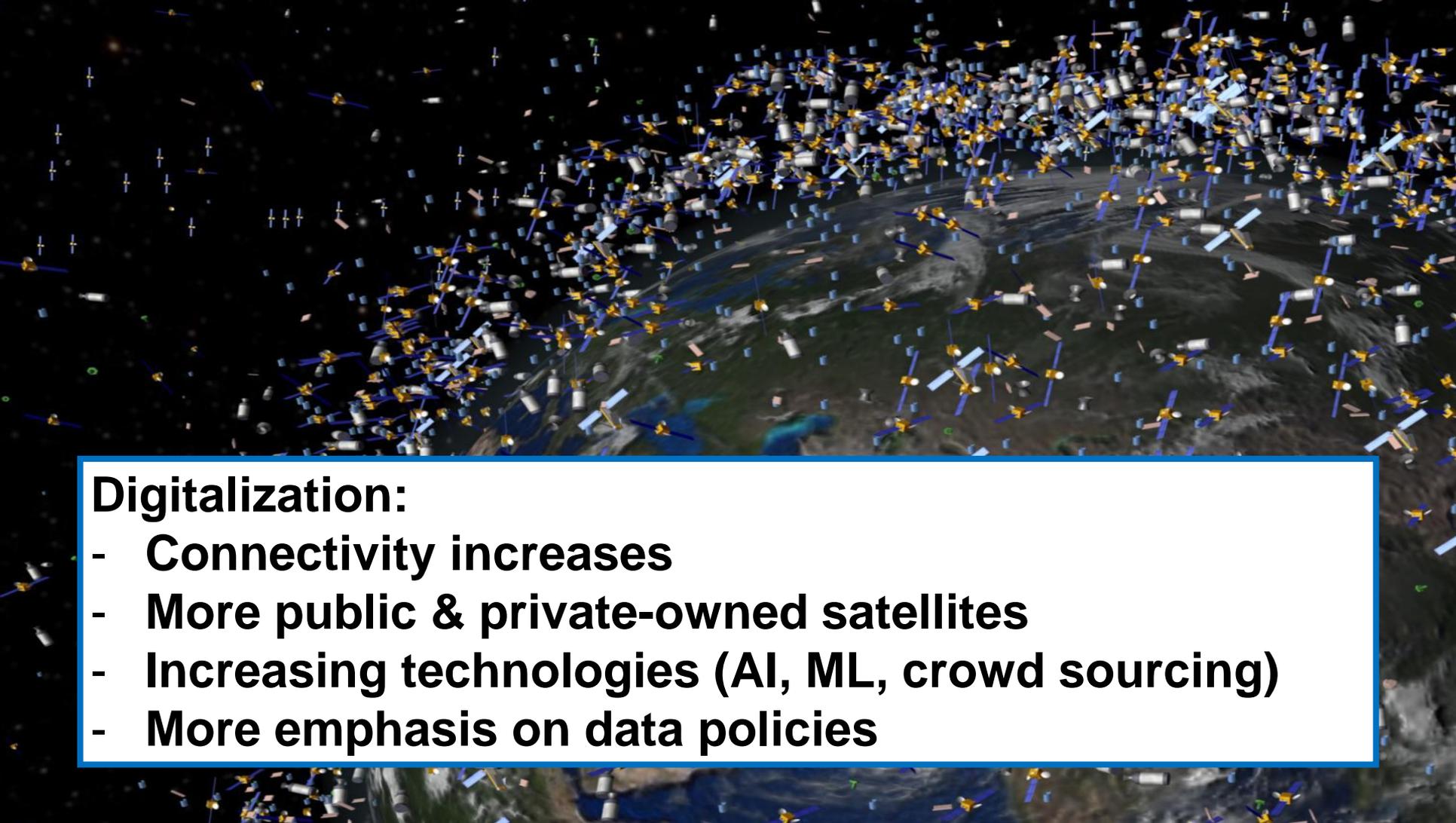
The digitalisation of
smallholder agriculture and
pastoralism

*The role of user engagement,
capacity building and
entrepreneurship*

June 10, 2021 - Ruud Grim (NSO)



Netherlands
Space
Office

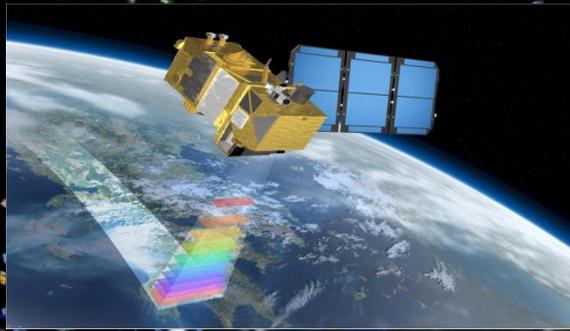


Digitalization:

- **Connectivity increases**
- **More public & private-owned satellites**
- **Increasing technologies (AI, ML, crowd sourcing)**
- **More emphasis on data policies**



Sentinel-1



Sentinel-2



Sentinel-3

Open and free satellite data



Since 2014, the Geodata for Agriculture and Water ([G4AW](#)) improves food security in developing countries by promoting the creation of digital advisory and/or financial services based on use of satellite data.

- 4,5 mio farmers and (agro-)pastoralists farmers
- 60 (+30) mio €
- 25 projects
- 15 countries



Netherlands Space Office (NSO) is executing this programme, commissioned by the Dutch Ministry of Foreign Affairs.



NUMBER OF FOOD PRODUCERS

3,827,100
Participating and trained
in using G4AW services

30,4%
Female users
(direct reach)

44,3%
Young users
(direct reach)

1,418,900
With improved livelihoods

Contributing to:



129 Partners
25 Projects
15 Countries



1,142,800
Subscriptions of G4AW services



4,807,000 ha
Land managed by reached farmers

Key programme elements:

- Building trust with users
- Understanding their needs
- Innovation (new services)
- Capacity building
- Training
- Public Private Partnership
- Entrepreneurship
- M&E and customer satisfaction



GCA Food Security: G4AW as early adaptor

Goals for 2025

Build enabling policy and institutional frameworks

for climate-resilient local and regional markets that benefit small-scale producers in 10-15 countries. Also, engage with 20 Africa-wide institutions to ensure South-South learning.

Catalyze sustainable and resilient African food markets

by scaling up the private sector-led initiatives on climate-resilient value chains in 4 African countries, by 2030 mobilizing \$1 billion private investments for implementation in 10 African countries.

Scale up access to Digital Climate Advisory Services

for at least 300 million farmers globally, including at least 20 African countries, and associated services, for farmers and their service providers.



Services:

Routing of herds
(avoiding agri zones)
Market information

Channels:

Call center (Orange)

Results:

STAMP (2019):
>75k pastoralists
MODHEM (2020):
>65k pastoralists

Scaling to Niger
(starts June 2021)

Impact STAMP

Lower mortality rates for cows (23.9%)
Less herd loss: 160 euro (saving)



STAMP (Mali) / MODHEM (Burkina Faso)



Services:

Drought insurance
(localized)

Channels:

Local insurance companies
Farmers cooperatives
AIC, Planet Gaurantee

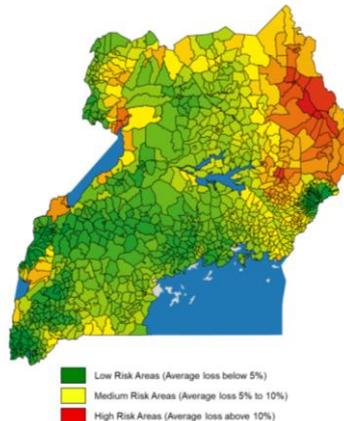
Results:

farmers insured
67,000 (2018)
150,000 (2020)

Insured versus Uninsured

Less selling assets at distress before
drought windows (4% / 21%)
Leaving farm for other work (4% / 15%)
Lower own consumption (16% / 35%)

Uganda Risk Rates (Generic Product)



SumAfrica (Uganda, Mali)



Services:

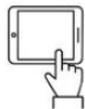
AgriCoach, Nutrition Coach, Online fertilizer and seeds savings, payment and credit, HealthCoach (Covid-19)

Channels:

G50 'Extension officers'
Mobile device app

Results:

~170.000 smallholder families in Burundi
2021: scaling to 400.000 (2.3 mio people)



Impact:

Farmers rating on AgriCoach

9.3 out of 10



227%

Bean productivity (double)



65%

Increase in application of GAP's



GAP4A (Burundi)



Services:

Weather information
Agri advisory
(planting, spraying)

Channels:

Android App
USSD
Extension officers
"Resellers"
In 11 languages

Results:

>300k farmers reached
>scaling potential is large



Example of output for info about spraying for weeds





Services:

Weather information & alerts

Agri advisory for 3 crops (planting, fertilizer, irrigation)

Land suitability (B2B)

Channels:

Agent services

Android Telegram

Mobile movies

Results:

Started June 2019

408 agro agents registered



@KresBot



Bom dia Willianne! 👩🏾 Parece que chuva média hoje e amanhã. Só uma dica 🙌
Hoje e amanhã são adequados para preparar terreno. Espero que ajude 😊

[meu site pessoal](#)



Mavo Diami (Angola)



Inform and inspire a wide audience:

- (International) policy makers
- Providers of satellite data & services
- Financial institutions / impact investors
- NGOs
- More...



Outreach

Find G4AW resources





Questions?

Discussion:

- How can you support scaling?

What's next?



G4AW



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Thank you for
your attention!

The G4AW is a programme
commissioned by:



Ministry of Foreign Affairs of the
Netherlands



Lessons Learned G4AW

- Two stage project
- Implement user-centered approach & digital inclusion using active M&E
- Bundling of services provide benefits (e.g. free advisory with buying inputs)
- Education & trust remain crucial success factor (e.g. farmers are more risk taking rather than to pay for insurance)

Stimulating smallholders' access to emerging AgTech and FinTech markets, Part 1: Users and Services, Summary Report 2021



Space for Food Security
Stimulating smallholders' access to emerging AgTech and FinTech markets

Part 1: Users and Services: Summary Report

- Weather information and forecast crucial
- Better soil data needed for good fertilizer advice
- Develop service delivery to be flexible for adaptations and scaling



Lessons Learned G4IFF

NpM Geodata for AgTech and FinTech; what have we learned?, March 2021



Geodata, a paradigm shift for inclusive finance!

- Geodata for credit scoring improves the current business process.
 - Higher production, increased repayment rate, improved prediction of non-payment, reduced processing time, and reduced operational costs.
- The number of farmer customers is increasing, but revenue generated is still relatively low. Reaching scale is a condition to break even or make a profit.
 - High upfront costs of service development
 - More investment needed to reach scale



True Clients:

This episode deals with the basic: how relevant are services based on satellite data for smallholder farmers?

The Power of Coalition:

This episode deals with the challenges that PPPs face: is there a recipe for a good partnership?

Catalyzing Inclusive Finance:

The third episode deals with the role of satellite data in increasing financial inclusion: how does this work?

More?

Podcasts

Why:

- People are tired of webinars and can listen while walking
- Large and active audience
- Relatively affordable
- Good dynamics: critical but controlled
- People focus on the actual story being told



AgriCloud App

